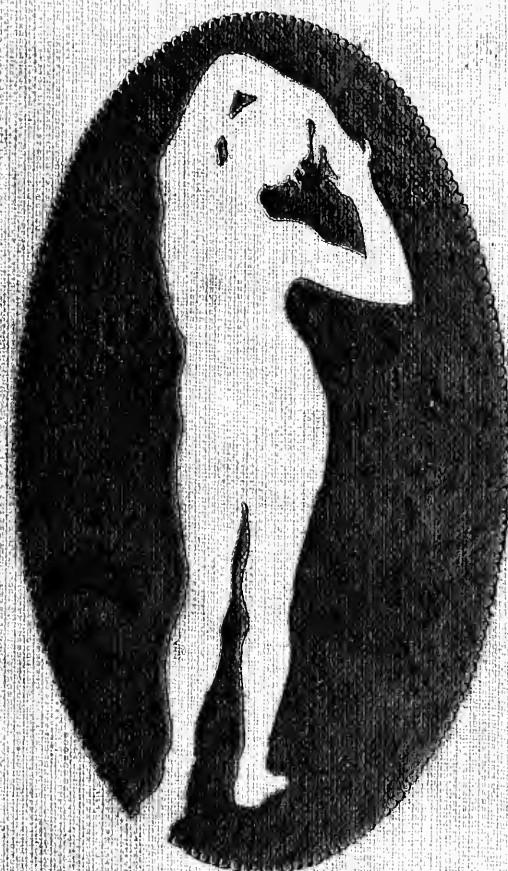


STUDIES OF THE HUMAN FIGURE



G.M. ELLWOOD
AND
F.R. YERBURY.

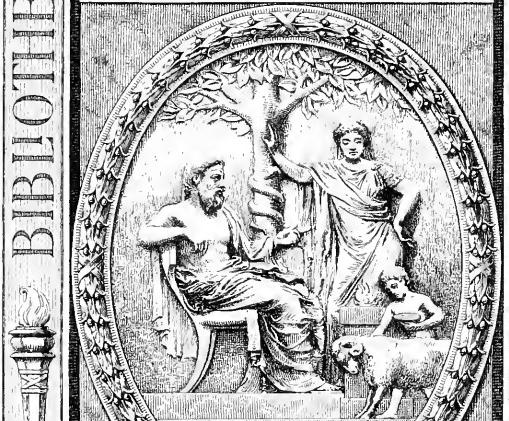


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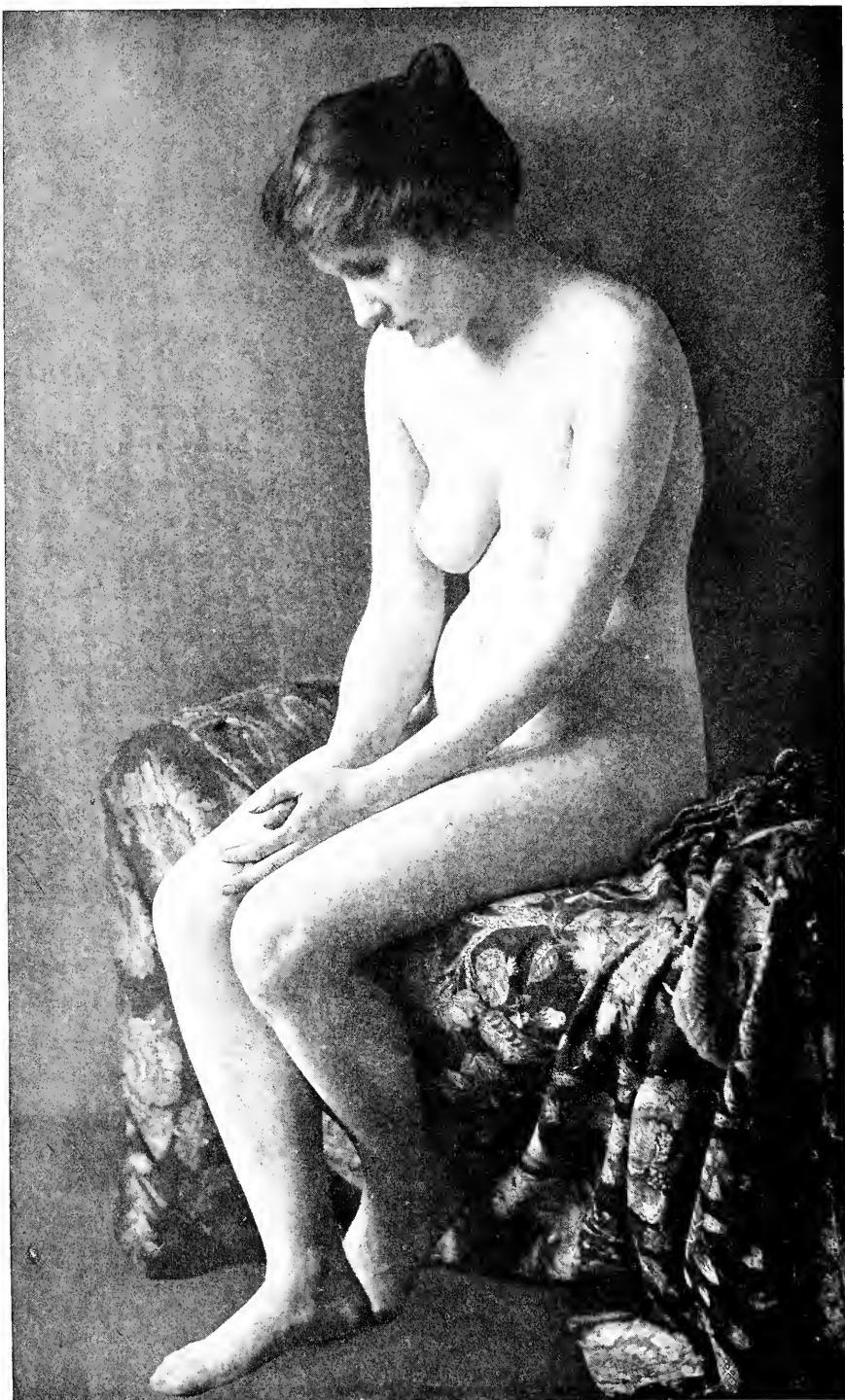
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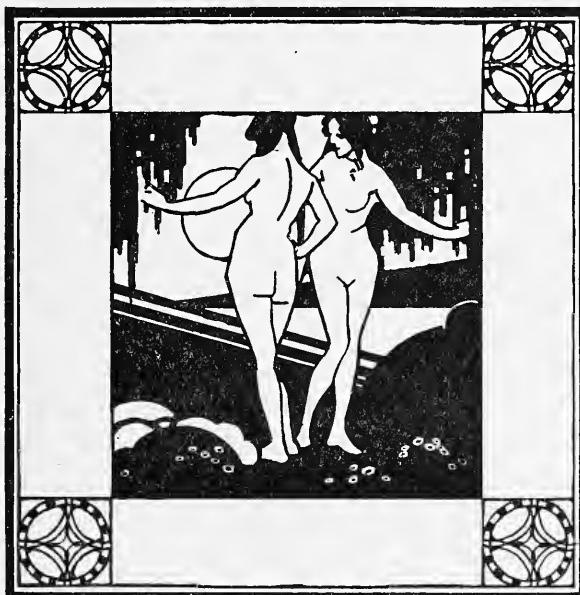
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MODEL NO. 4.

• STUDIES •
OF THE
HUMAN • FIGURE

WITH SOME NOTES
ON DRAWING AND
ANATOMY



BY G. M. ELLWOOD
& F. R. YERBURY

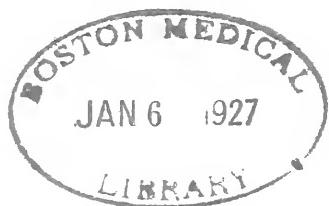


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STUDIES OF THE HUMAN FIGURE



INTRODUCTION

THROUGHOUT the ages the human form has been the chief inspiration of the artist, and proficiency in its representation an enviable distinction among his contemporaries. The earliest manifestations of the desire to record things seen were crude attempts to represent figures by outline, or in silhouette, scratched with sharp instruments, on cave interiors, animals' horns and teeth, or rudely carved in any handy material.

It was in the magnificent civilisation of old Egypt that the conscious artist was born, and Drawing, as we understand it to-day, cradled. The types of the period were rendered in paintings and sculpture with wonderful facility and spirit, and decorative compositions produced which involved great skill in representing the figure in action and revealed such scholarly regard for form and line that much can still be gained by studying them.

The later development in Greece of understanding in drawing and modelling rising to a standard that has never been surpassed, came through almost ideal conditions of life. The Greeks were a light-hearted and virile people, devoted to graceful pursuits. The manifestations in their games and arts were forms of worship, and their entire outlook concerned itself with beautiful things as homage to their mythical gods.

: Greek mythology, the inspiration of the immortals, Scopas, Praxiteles, and Phidias, four or five hundred years before Christ, has ever since influenced sculptors and painters by the opportunities it affords for poetic representation of the beauties of the ideal human form.

The lovely Venus of Milo, the most perfect sculptured representation of female loveliness, is but one manifestation of the supreme efforts made by the Greek sculptors of old to perpetuate an ideal of their favourite goddess, the sea-born Aphrodite. This statue, although without arms and minus its

IMPORTANCE OF ANATOMY

left foot, is yet by far the most inspiring example of perfection in pose and form that the world possesses.

Although it is generally accepted that it represents Aphrodite or Venus, owing to the universal worship of this goddess throughout the coasts and islands of the Ægean archipelago, there is no record of this attribution being authentic, and many other designations have been given by antiquaries. Many suggested restorations also have been planned by later sculptors, none of which are in any way satisfying as a solution of the enigma of the position of her arms, for the additions in every case lessen most obviously the dignity of the original.

If it is a fact that these Greek artists achieved their wonderful figure work without the help of dissected anatomy, the infinite patience and labour involved in observing and memorising with thorough mastery the multitude of variations in surface form occasioned by the actions of the body, would have been a Herculean task for any man's lifetime. Hence it is certain that some code of study must have been in use other than this individual observation ;—the attachments and play of muscles must have been understood, and certain formulæ laid down by experts for their students' benefit, or the perfect school of sculpture associated with the age could not have existed.

Thanks to the models and notes of the Renaissance painters and sculptors, and to the investigations of modern scientific surgery, anatomy is now the handmaid of drawing. Structure has been so tabulated and explained that the student may work from the cast, model, or photograph, and follow from charts, diagrams, and descriptions, every bone and muscle affecting the drawing he is engaged upon, thus almost automatically obtaining a grip of this vital subject concurrently with valuable practice in drawing.

One of the most able figure-draughtsmen and painters that I know obtained his mastery over anatomy in this way, and working beside him for some time I was greatly interested in his method and progress. He did not attend the school lectures on anatomy, and I am sure that he derived exactly the same amount of useful information from them as those of us who did. Instead, he struck out a line for himself in studying Thompson's "Anatomy" in conjunction with the anatomical casts possessed by the school, making innumerable quick sketches, and fitting the names he wished to know by reference to Thompson, the while paying very special attention to the attachments

AN ORIGINAL METHOD ; DRAWING FROM LIFE

of the muscles, a knowledge of which is invaluable in studying their direction and movements in the actual model. When familiar with the whole frame and superstructure of muscles as shown in these casts, he carried out the same search from the living model, making sketches on the same position as his former studies from the casts, and jotting down his impressions of any difference or similarity to his conclusions.

At this stage he made many anatomical sketches from photographs of casts and living models, being most enthusiastic in his search for photographic subjects to anatomise. Afterwards he would pose the art school models in similar positions and get information from points of view other than those in the photographs.

In drawing from life in class from models posed by the masters, he insisted on making only pencil and chalk studies, taking from two minutes to two hours according to his mood. Working at first with the anatomy book until he attained complete knowledge of the form and action of all surface muscles, most of his early sketches were diagrammatic, and done, as all sketches should be, with the sole idea of getting information. They were generally written over with notes, and it would be easy to trace from his sketches at this period the way to complete mastery over the mechanical or constructional side of life-drawing.

As he became perfectly sure of the underlying reason for everything, beautiful drawing gradually emerged from the chaos of notes and diagrams, and his work, though always slight, and apparently executed with absolute ease, was that of a master, inimitable and satisfying in its slightest manifestation.

Before finally adopting water-colour painting as his profession he spent some few years in teaching, and his instruction, based on personal experience and new methods, was of infinite value to a large number of students who were fortunate enough to interest him and understand his artistic free-thinking. Many men who first seriously considered photography as a help in study at his instigation, have found it extremely useful in numberless ways, and others who have so far left it out of their calculations would be wise to consider it as a material aid in work.

The eye is the great teacher, and what it constantly conveys to the mind the artist in any craft can soon portray or mould with his hands. To-day it

PHOTOGRAPHS AS SUBSTITUTES FOR MODELS

is by no means the simple matter it was in ancient times to observe from life the undraped human figure, male or female, and the help of photography opens great possibilities in this direction, insomuch as a collection of photographs is constantly available for study. It will constantly suggest new ideas and reveal new pictorial possibilities of treating the figure, while serving always as a reference for actual facts of form and lighting.

In addition to their use as subjects to help in the study of anatomy, photographs are of use in suggesting poses as standards of comparison for proportion, and as substitutes for or supplements to models in positions so strenuous or difficult that a model can only keep them for a few moments. Last but not least, they serve as a source of reference for designers in preparing hurried or finished drawings for press-work, book-covers, certificates, testimonials, posters, wood-carving, stone-work, painted decoration, pottery, enamels, trade-wrappers, show-cards, stained-glass, and the many other things in which some representation of the human figure is appropriate and desirable.

A photograph from a good pose given by a thoroughly well-chosen model is a priceless possession to an expert draughtsman who understands anatomy sufficiently to interpret it intelligently. It is more difficult for an untrained man to work from a photograph than from life, but a competent one can use photographs in preparing drawings and cartoons for trade purposes that will be equal to any from actual models, and he will thus save a great amount of worry and expense.

Many draughtsmen and decorators are in the habit of drawing their figures entirely from memory. Walter Crane, for instance, seldom used a model, and in consequence his figures are simply conventions bearing small resemblance to actuality either in form or action. It is impossible to visualise figures correctly without a record of some kind from life, and to the man who can *draw*, photographs give quite sufficient data from which to produce convincing drawings.

The collection of photographs taken by Mr. Yerbury for this book will, it is thought, prove an inspiration to the painter, sculptor or decorator, while to the student it offers a fine series of figures to anatomise with the aid of the diagrams included, or of a standard anatomical book, atlas and anatomical casts. Even the rough accomplishment of this task will give a quite new

MEDIUMS FOR PRELIMINARY STUDIES

conception of the road to competence in drawing, for the amount of knowledge that is gained is surprising in proportion to the work involved, and the possession and inevitable development of such knowledge renders work from the model infinitely easier and more valuable.

It is difficult to advise generally on actual methods of drawing from antique and life, or to lay down fixed rules without knowledge of the peculiarities of students who are to carry them out. There is danger, for instance, in advising a whole body of workers to make their studies in pencil, as it may well be a totally unsympathetic medium to some who would work perfectly freely and successfully in chalk, charcoal, or brush. If a student adopts one medium at the suggestion of a master, he may for ever fail to discover his best means of expression. The common-sense way is to work in many mediums until one naturally selects that which gives best results. Generally speaking, charcoal is best for large studies and pencil for small ones, but the many exceptions make it dangerous to call this a rule.

The plates given here (plates I-VII) give examples of some methods of preparing preliminary studies in most of the mediums that are in general use. Mr. Walcot's supremely facile and decorative pencil study is an admirable object lesson to students in direct and fearless use of simple line. Mr. Arthur Mason's three chalk studies, which have inevitably suffered in reduction, are masterly drawings in a method that calls for searching and accurate drawing, gives a very complete record of the model drawn from, and has much to recommend it to both the painter and decorator. Puvis de Chavannes' charcoal study is a typical painter's study for a figure to be used in a large composition, and the use of charcoal on Michelet paper is an effective and easily corrected method of rapid study that every student should try. The studies in oil and water colour by Harold Knight are quite large drawings, and as records of figures for future use could hardly be more perfect in drawing, lighting, or technique. Such studies are worth their weight in gold, inasmuch as they give every item of information that is necessary in using them afterwards ; photographs are their only competitors in usefulness, and they, of course, lack colour.

About the size to make early studies it is possible to be a little more dogmatic, and exclude anything smaller than an imperial sheet will comfort-

ADVICE TO THE BEGINNER

ably hold, for drawings other than anatomical notes and diagrams. One's efforts should be concentrated from the first on understanding the pictorial aspect of the figure in a large way, and it is much easier to detect faults when working on a large scale. Life-size is not too large, but some pluck and determination are needed to work on this scale in an ordinary art school. I remember two students, now well known in the practical art world, who insisted on working constantly in oils on canvas, full-life, or heroic size ; both now work on quite a small scale, but their work is splendidly broad, free, and certain in construction as a result of the splendid practice their doubly heroic work afforded.

The chief objection to students working on a small scale is that drawing is too easily slurred, and the danger of clever tricks intensified. Many brilliant young producers of effective sketches from life have mistaken the means for the end, and lost themselves in admiration of their own achievement.

One of the pitfalls of the beginner in drawing the figure is the attempt at finish of parts before understanding pose and construction, an error in procedure that was encouraged by the reverence in official teachers for laboured study from the antique as a preliminary to life-drawing.

The practice must have originated in the grand capacity that statues have for keeping still, and the patient disposition of the last generation of students, both factors in encouraging laziness in teaching. It was so easy to start a student with some stumps on a large sheet of stretched Whatman paper and come round once an evening for the next three, six, or twelve months and make rude remarks about the depth of tone in the shading of surfaces or the disposition of high lights.

This method of teaching is happily almost a thing of the past, as most modern schools are staffed with men who suffered under the old system even if they triumphed over it.

Professor Brown of the Slade was a pioneer of the saner teaching when head of the old Westminster School of Art, and from some interesting comments by D. S. McColl on his appointment to the Slade School professorship, the following is quoted :—

“The business of a real teacher of drawing may be summed up in the effort to make the beginner attend to the large fact first, the smaller next, and

ADVICE TO THE BEGINNER

the smallest last. Supposing one has to draw the figure of a man standing with outstretched arms : the main, the elementary fact in that figure, on which all its action depends, is expressed by two lines crossing one another, the line of the body and that of the arms. Note that angle correctly, hit the characteristic swing of those two lines, and you have set up a scaffolding on which all the smaller facts can be correctly hung, the smaller contours of the single limbs, the still smaller contours of the several muscles and so forth. But miss the elementary fact and no smaller fact can be rightly stated because of this mistake.

“ Now these largest facts that control all others are the last to be appreciated by the beginner. He sees the flaw in the surface of the marble, but he does not see the statue ; he sees the separate hairs, but not the head ; the twigs but not the tree : surely it is a waste of time to allow him to state these facts with which he is perfectly familiar, which he has no difficulty in stating, and which he states with such insistence that the twig becomes more important than the tree, when he ought to be learning, ought to be encouraged and urged by every device of teaching, to attend to the big things first and let the small come in their order. Instead of that he is induced to sit worrying for months over the texture of the ‘ Theseus ’ before he has seized the character of its forms, and falls into the habit of this brainless industry, this pestilential practice of a kind of graining, ugly in itself as well as futile.

“ In place of this deplorable waste of time, the practice at the Westminster school was to allow the students to make a sufficient number of studies from the antique, to familiarise him with his materials and give him some control over his hand. These were made in charcoal on Michelet paper, so as to be easily obliterated and recommenced, and were never allowed to proceed when some radical point of drawing had been missed, that would invalidate what followed. After this preliminary practice the student was sent to the life-room, and drew from the living model in the same fashion. It is probably a sound view that the antique will be better appreciated after study from life, and it is a wholesome discipline in alertness of observation to draw a form that is always insensibly altering in pose, and is only available for a limited time.”

The influence of the manner and matter of training on later work must

KNOWLEDGE OF FORM

be great, and the absence of definite knowledge of any helpful facts in connection with an occupation is liable to handicap efforts that would otherwise succeed. However good a man's work becomes, there is generally the tantalising subconscious regret that if a little more knowledge had been acquired it would be better. To keep this subconscious annoyance within bounds, it is wise to thoroughly equip and arm oneself with all available information: It can easily be filed in the brain for future reference, and need never come out, but it is extremely comforting to find it there if wanted.

For the figure draughtsman, painter, or sculptor a knowledge of form is the essential preliminary to all adventures in execution, and form is controlled by structure, a hard fact that renders futile much of the work executed in schools where life-drawing is encouraged without anatomical training. Students who merely draw on the principle of putting down what they see, without understanding why, will perhaps get expert in indicating what they see, but will find, sooner or later, that there is something missing in their equipment as artists; their figures do not hang together, because they are only partially understood and shout painfully their need of structure.

Ruskin, now a somewhat discredited mentor on art matters, held the opinion that a knowledge of human anatomy was not only unnecessary, but positively harmful to the artist or sculptor, mentioning Albert Durer as an artist whose knowledge of the structure of the figure was so thorough that it obtruded detrimentally in his work: his interest in the facial bones, for instance, making it impossible for him to draw a natural and living face.

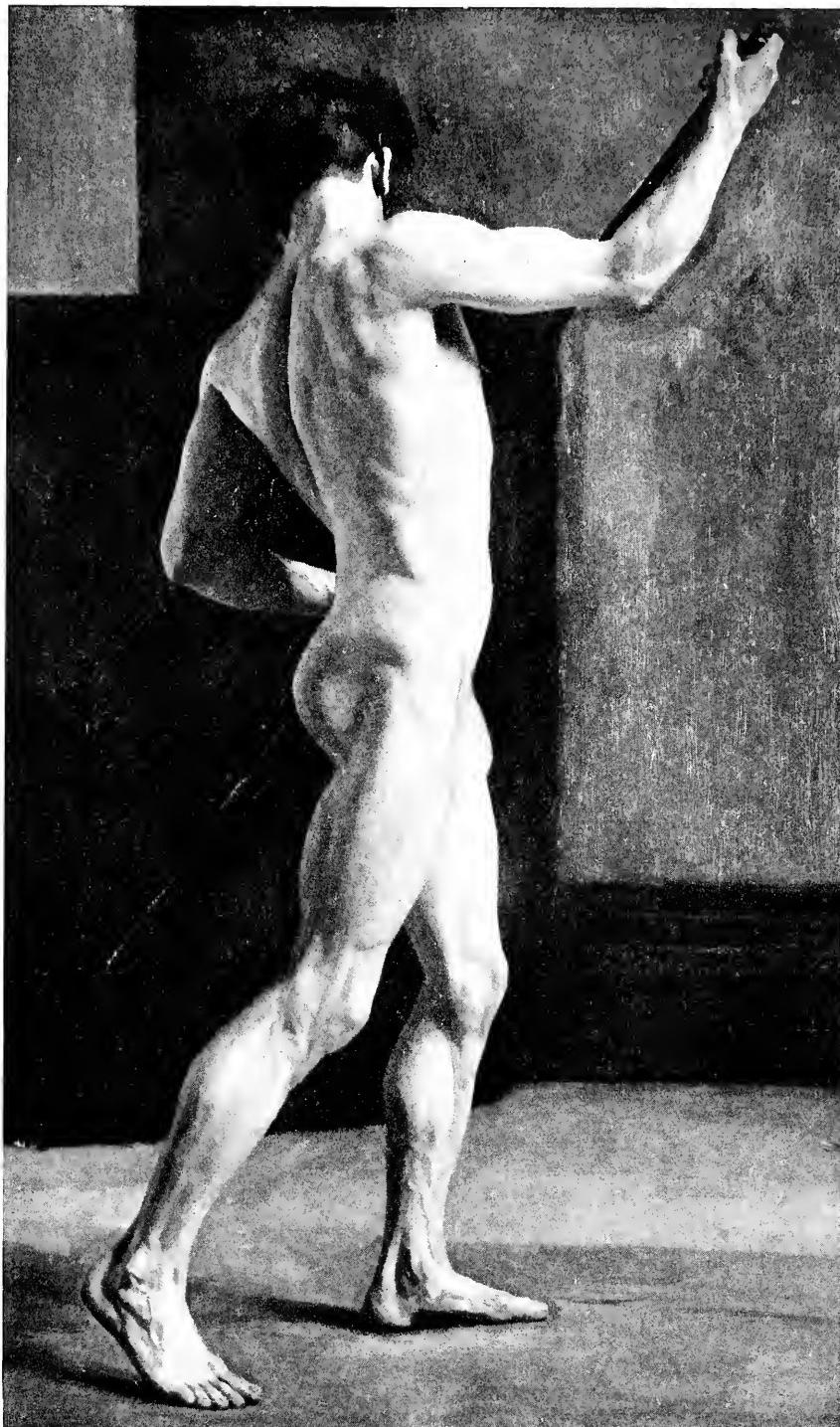
The same view in the milder form that anatomical facts hamper the free expression and rhythm of an artist's impressions, is held by many successful and sincere art teachers to-day, and it may be quite right in the case of painters of pictures, but for the man engaged in any of the applied arts it is clearly necessary to have a working knowledge of anatomy and surface muscles if he would draw the figure easily and with conviction.

The following notes, with plates IX, X, XI, XII, XIII, and XIV, from students' drawings (kindly lent by prominent art schools) on some of which the principal bones and muscles are named, will afford sufficient information to enable students to make similar anatomical renderings of the photographic poses, and the effort to do this will fix in the memory a fair working know-

PLATE I.



A STUDY IN CHARCOAL
on Micheler paper, by Pavis de Chavannes.



A STUDY IN OIL COLOURS
by Harold Knight, Nottingham School of Art.





A STUDY IN OIL COLOURS
by H. Ball, Nottingham School of Art.

PLATE IV.



A STUDY IN PENCIL
by Arthur Mason, Birmingham School of Art.

PLATE V.



A STUDY IN PENCIL
by Arthur Mason, Birmingham School of Art.

DESCRIPTION OF BONES

ledge of the bones and muscles that determine surface form in the figure, and their behaviour in various positions and actions.

The basis of the human structure is the bony framework of the trunk, lower limbs, upper limbs, neck and head shown in plates IX, XI, XIII, and XIV.

The trunk is kept erect by the vertebral column and its supporting muscles the *erectores spinæ*. The lower limbs are connected with the trunk by the pelvic girdle which is united with the vertebral column by the sacrum, a large wedge-shaped bone, built up by the union of the five lower vertebrae, and articulating with the *innominatum* or haunch bone, on the outer edge of which is the acetabulum, or recess for the head of the thigh bone.

The bones forming the pelvic girdle are separate in childhood, but with growth unite and form the haunch bones, one for each leg, united at the back by an immovable joint to both sides of the sacrum, and further strengthened by the joint in front called the *symphysis pubis*. The bony basin formed by these two haunch bones and their union with the sacrum is called the pelvis, and supports the internal organs. The powerful muscles which connect the pelvic girdle with the thigh bone have their attachments on the outer edge of these haunch bones. The action of the pelvis is largely instrumental in determining pose.

The acetabulum is the deep, cup-shaped cavity which receives the head of the femur or thigh bone, and forms the movable hip joint.

The femur is the longest bone in the body, and its peculiar neck-form connecting it obliquely with the haunch bone, gives immense freedom of movement compared with similar bones in animals, which are limited to backward and forward action. The thigh bones, wide apart above, owing to the width of the pelvis, slope inwards to proximity at the knees.

The two bones of the leg are immovably united, as movement would weaken them in their task of supporting the body. The tibia or shin bone alone enters into the formation of the knee joint, offering a broadened surface for the articular surfaces or condyles of the thigh bone. The lower leg muscles are attached to the fibula or supporting bone.

The muscles of the calf are attached to the heel bone or *os calcis*, and the bones of the fore part of the foot form arches that protect the sole from undue pressure and give spring to the movements of the foot. The bones

DESCRIPTION OF BONES

of the toes are short in comparison to the corresponding bones of the fingers, and the big toes have no power of separation equivalent to the thumbs.

The shoulder girdle consists of a collar bone or clavicle and a shoulder blade or scapula on either side, joined in such a way that a limited movement is possible, though the girdle is connected with the skeleton of the trunk by one joint on each side, between the upper end of the breast bone or sternum and the inner extremity of the collar bone.

The shoulder blade is only connected indirectly with the trunk through its articulation with the collar bone, though the blade bone is attached by numerous muscles to the chest wall.

The shoulder girdle is articulated with the bone of the upper arm and plays an important part in giving freedom of movement to the limb.

The upper extremity of the humerus or upper-arm bone joins the shoulder girdle by means of a small and shallow socket on the shoulder blade, in which its large rounded head partially rests, surrounded by ligaments or fibrous bands which are lax and only slightly limit the possible range of movement, giving the joint great freedom but rendering it comparatively weak and easily dislocated in comparison to the more deeply inserted femur, which has greater strength, but a much more limited range of action.

The forearm has two bones, jointed in such a way that they work freely one upon the other in certain definite ways, called pronation and supination, the movements being effected by the rotation of the outer bone, or radius, over the inner, or ulna.

The head rests on the topmost cervical vertebra, called the atlas, from its function in supporting the globe-shaped head; the condyle of the occipital bone resting on its two articular surfaces, and rocking to produce the action of nodding. The atlas is a ring-shaped bone acting on the axis vertebra immediately beneath it.

The skull consists of two portions, one, the cranial box or calvaria, enclosing the brain, and the other, the skeleton of the face, supporting and protecting the lower features. All the bones forming these are immovably united with the exception of the mandible or lower jaw which articulates by a movable joint with a hollow fossa on the under part of the temporal bone.

The under surface of the cranial box, which consists of spread plates

BONES CONTROLLING FORM OF THE FACE

of bone forming a dome-shaped roof, is called the base of the skull, and in front unites with the facial bones, the back being rough and irregular, with many holes. It affords attachments for many muscles controlling the movements of the head.

The bones of the cranial vault are the frontal, forming the forehead, two parietals, one on each side, and the occipital, forming the back of the head. The portion round the ear is made up of the temporal bone, and a portion of the sphenoid fills the gap between the temporal bone at the back and the frontal bone on either side.

The most important bones controlling the form of the face are the malar or cheek bones, forming the outline of the orbits on the outer and lower side, and lying between the outer portion of frontal bone above and the bones of the upper jaw below. They control the prominence of the cheeks, and at the back can be felt to be supported by an arch of bone called the zygomatic arch, having underneath it a hollow called the temporal fossa, extending upwards on either side of the head, in which is lodged the temporal muscle controlling the lower jaw.

The lower jaw is divided in two laterally, united in the middle line in front, each half consisting of three parts. *The body* of the jaw, being that part which forms the arch supporting the lower teeth, its front determining the angle of the chin, and the length of its lower border finishing at a point a little short of the ear, where it turns upward forming *the angle*, and its continuation above *the ramus*.

The bony framework, though important in influencing structure and pose, only directly controls surface form in those tiny portions of the body not covered by the muscles which control its movements and largely determine the beauty of its outward form.

A muscle generally passes from an attachment to one bone to an attachment to another, the actual connection being a short or long tendon, but there are exceptions in which they attach to ligaments, tendinous sheaths, or similar non-bony parts.

The muscles closing the mouth and eyes are circular, and called orbicularis oris and orbicularis palpebrarum respectively ; the former being the centre for most of the other muscles of the face, the latter connected only

MUSCLES OF THE FACE

with two unimportant muscles, the pyramidalis nasi concerned with wrinkling the skin of the nose, and the occipito-frontalis, an upward extension of the first, concerned with wrinkling the forehead.

The orbicularis oris, only slightly connected with the jaw bones, is made up of fibres which, passing from side to side, turn upwards and downwards at the angles of the mouth. The muscle blends at its outer border with the elevators and depressors of the lips and angles ; and with the cheek muscles also closes the mouth, brings the lips together, narrows the mouth, and causes the lips to protrude.

There are two elevators of the upper lip, the levator labii superioris et alae nasi, the fibres of which pass to the lips and blend with the orbicularis at the sides of the wings of the nostrils, and the levator labii superioris proprius, or special elevator of the upper lip, arising from the upper jaw bone in front, close to the lower edge of the orbit and inserted in the tissues of the upper lip.

The levator anguli oris and zygomaticus major and minor are elevators of the angles of the mouth, the levator anguli oris is attached to the front of the upper jaw bone under cover of the levator labii superioris proprius, and passing downwards and outwards is inserted in the upper border and outer side of the angle of the mouth. The zygomatici, two muscular slips arising from the outer surface of the cheek bone, are also inserted in the angles of the mouth, which they draw upwards and outwards in smiling.

The depressors of the mouth angles are the depressor anguli oris, and the fibres of the platysma towards the angle. The former arises near the lower border of the lower jaw, on either side of the centre. It is triangular and attached by its pointed extremity to the tissues of the mouth angle on its lower side. The platysma myoides passes up from the neck to its connection with the muscles of the lower lip, while certain of its fibres, grouped under the name of the risorius muscle, arise from the cheek fascia in front of the ear and are attached to the skin at the angles of the mouth, which they widen.

The lower lip is depressed by the depressor labii inferioris, which arises beneath the depressor anguli oris in front of the lower jaw. Square and therefore sometimes known as the quadratus menti, it passes upwards to its insertion in the tissues of the lip, blending with the orbicularis oris, and assisted in its action by fibres of the platysma.

MUSCLES OF THE NECK

The levator menti, a small muscle arising from the front of the lower jaw below the teeth, runs downwards and forwards, spreads, and is inserted in the skin of the chin. It raises the chin and controls the lower lip.

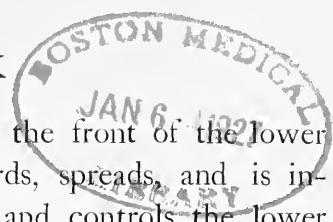
The action of the cheek muscles in laughing and crying cause a deep furrow between the cheek and the nose wing, which sweeps downwards and outwards round the mouth, and fades at the mouth angle.

The ramus supports two processes, the condyle at the back articulates with the temporal bone in front of the ear, and is separated by the coronoid notch from the 'coronoid process lying in front of it. When the jaws are closed this process passes underneath the zygomatic arch and forms the insertion for the temporal muscle.

Covering the ramus of the jaw and concealing its outline is a powerful muscle called the masseter, rising from a fixed attachment to the side of the skull and acting with the temporal in elevating the inferior maxilla and so closing the jaw and controlling mastication.

The most important muscle influencing the drawing of the neck is the sterno mastoid, which has two origins, the inferior from the anterior surface of the breast bone by a thick tendon and other fibres from the inner third of the collar bone. The solid mass of muscle formed by the union of these two attachments passes upwards and backwards to the base of the skull immediately behind the ear, where it is attached to a rounded blunt formation of bone called the mastoid process of the temporal bone.

The sterno mastoid passes obliquely across the side of the neck, dividing it into two triangles, the anterior, in front and above, the posterior, behind and below. The V formed by the divergence of the two sterno mastoids, from their origins in the breast bone, is the surface hollow known as the pit of the neck. Sharply defined in the male, it is in the female softer and more rounded. Above this depression, in the interval between the sterno mastoids, above the hyoid bone and below the border of the lower jaw, are the muscles controlling the tongue and floor of the mouth, the blood vessels and the salivary glands ; one of the latter fills the interval between the ear and angle of jaw. Under cover of this angle is another gland, giving fullness to the surface as it passes inwards and downwards to the hyoid bone.



MUSCLES OF THE BACK

Behind and below the sterno mastoid are the superior fibres of the trapezius, the muscle arising above from the base of the skull close to the middle line behind, and passing downwards, outwards, and forwards, is inserted in the outer third of the top edge of the collar bone. The space between the trapezius and the sterno mastoid constitutes the posterior triangle of the neck, which in muscular men and thin women shows very clearly. The neck has one prominent vein influencing surface form, the external jugular, which occurs at the side, running from the angle of the jaw to a point above the collar bone, just outside the origin of the sterno mastoid.

The trapezius is named from the four-sided figure formed by the sides of the muscle, and is comparable to a tippet hung over the shoulders down to the spine of the last thoracic vertebra. Its inferior parts are attached to the top of the spine of the seventh neck vertebra and to the spines of all the thoracic vertebræ and to ligaments connecting them. Spreading from this extensive attachment the fibres are inserted into the outer third of the posterior border of the collar bone in front, and the entire upper border of the acromion process and spine of the shoulder blade at the side and back. The method of insertion involves much alteration in the direction of the parts of the muscle ; thus the fibres arising from the occiput and neck pass downwards, outwards, and forwards to the collar bone and acromion, and those springing from the lower thoracic spines ascend and incline outwards to the root of the spine of the shoulder blade.

The rounded form of the back on either side of the middle line is not due to the trapezius, which is here only a thin layer, but is caused by the fullness of the underlying *erectores spinæ* group.

There are three muscles beneath the trapezius attached to the inner border of the blade bone—the two rhomboids and the elevator of the angle of the scapula. Considering them as one whole muscle, it is attached along the middle line up to the lower half of the median ligament of the neck, passes downwards and connects with the spine of the seventh neck vertebra. These muscles exercise some influence on the surface, accentuating the relief of the trapezius which covers them. The elevation of the angle of the scapula (*levator anguli scapulæ*) arises from the transverse processes of the higher neck vertebræ, and is inserted into the inner border of the blade bone

MUSCLES OF THE TRUNK

above the level of the spine. Although covered by the trapezius, it assists in giving a rounded form to the neck.

The broad serratus magnus muscle arises by fleshy strips from the outer surface of the eight upper ribs. The fibres from the lowest five or six slips of origin converge fan-wise to be inserted in the lower angle of the inner border of the blade bone, forming a fleshy prominence, which, though not superficial, influences surface form, its covering muscle being thin. The lower and anterior portion of the serratus magnus is superficial, and directly influences form ; it comprises the four slips which arise from the surfaces of the fifth, sixth, seventh, and eighth ribs, fleshy, pointed processes called digitationes, which interlock with similar slips of origin of the external oblique abdominal muscle.

The pectoralis minor has its origin in the front of the chest wall, under the great pectoral, its fibres arising from the third, fourth, and fifth ribs, and passing upwards and outwards are inserted by a tendon into the caracoid process of the shoulder blade.

There are two important muscles arising from the trunk and passing to their attachments in the bone of the upper arm, the latissimus dorsi or broad muscle of the back, and the pectoralis major or great muscle of the breast. The former has an extensive origin from the lower six thoracic spines and the spines of the lumbar and sacral vertebræ, also from the posterior end of the crest of the haunch bone, the origin forming a fibrous layer constituting the posterior layer of the lumbar aponeurosis. At its origin from the lower six thoracic spines it is overlapped by the trapezius, and in turn it overlies the erector spinae. The full attachment of the muscle to the aponeurosis is shown by a curved line drawn from the upper part of the muscles attachment near the middle line, to its inferior attachment to the iliac crest. From this attachment the fibres converge towards the posterior fold of the arm-pit, become thick and influence the roundness of that fold, then pass forwards to their insertion in the upper part of the humerus. The upper fibres of the muscle pass horizontally outside across the back, over the inferior angle of the blade bone. The lower fibres and those from the last three ribs pass upwards, corresponding in direction to the outline of the upper arm when the limb is hanging.

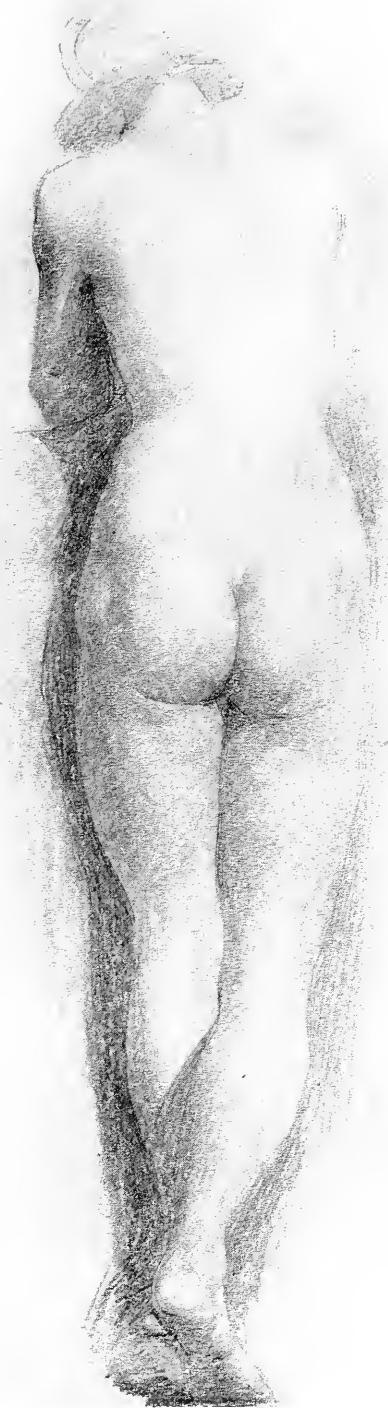
MUSCLES OF THE SHOULDER

The pectoralis major, or great muscle of the breast, arises from the anterior border of the inner half of the collar bone, its fibres converge in passing to the upper arm, the highest passing downwards and outward in front of the lowest, which pass upwards and outwards. Those springing from the breast bone lie horizontally when the limb hangs. The passing of the lower behind the upper fibres in passing from the chest to the arm increases the thickness of the fleshy fold at the hollow of the arm-pit in front, the muscle narrowing, and being inserted by a flat tendon in the outer lip of the occipital groove of the humerus, under the deltoid. The fibres which spring from the breast bone and ribs form a triangle, the apex of which overlies the front of the upper arm, its base corresponding to the surface on both sides of the centre of the breast bone. The prominence formed by these fibres causes the median furrow, the lower line corresponding to the breast bone. The muscle when well developed conceals the framework of the thoracic wall, but the ribs and cartilages may be observed beneath it in poorly developed figures.

Of another group of muscles having their insertion in the humerus, the deltoid or great triangular shoulder muscle, which raises the arm, is the principal. It arises from both bones of the shoulder girdle, from the anterior surface of the collar bone in front, above the shoulder from the point and outer margin of the acromion process of the shoulder blade, and behind from the whole length of the lower border of the spine of the scapula, its whole origin corresponding with the insertion of the trapezius, of which it may be considered a continuation downwards to the arm, after interruption by the bones of the shoulder girdle. The remaining muscles of this group are the infra spinatus, arising from the back of the blade bone below the spine, the teres minor arising from attachments along the external border of the blade bone (both of which are inserted in the great tuberosity of the humerus) and the teres major arising from the posterior surface of the lower angle of the blade bone, its fibres running parallel to those of the teres minor, but attached in front of the humerus by insertion into the bicipital groove.

The abdominal wall consists of a number of ensheathing muscles attached by their edges to its boundaries. Connected with the lumbar vertebrae are sheets of condensed tissue called aponeuroses, springing from the spines and

PLATE VI.



A STUDY IN PENCIL
by Arthur Mason, Birmingham School of Art.

PLATE VII.



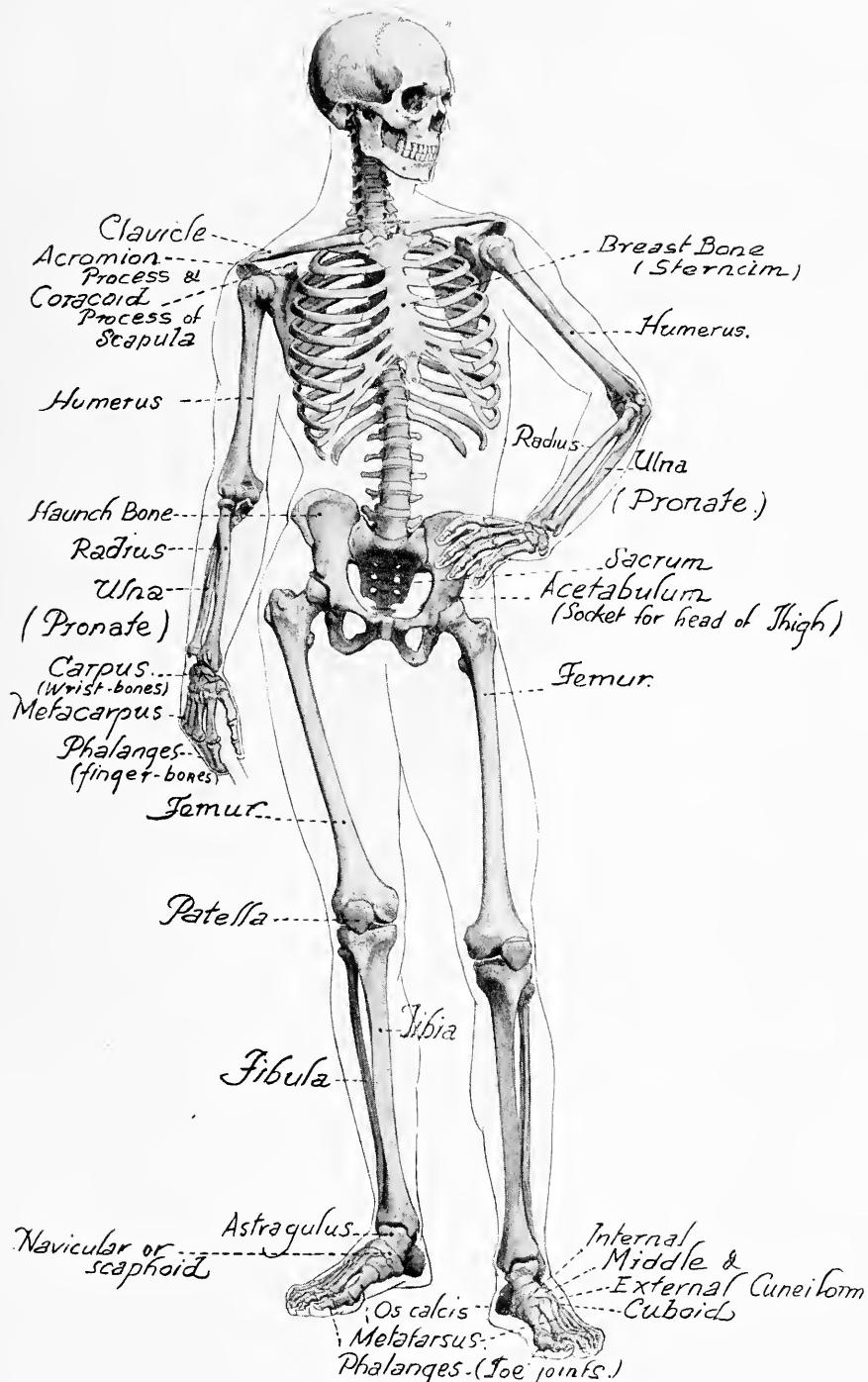
A STUDY IN PENCIL AND WASH ON TINTED PAPER
by W. Walcot.

PLATE VIII.



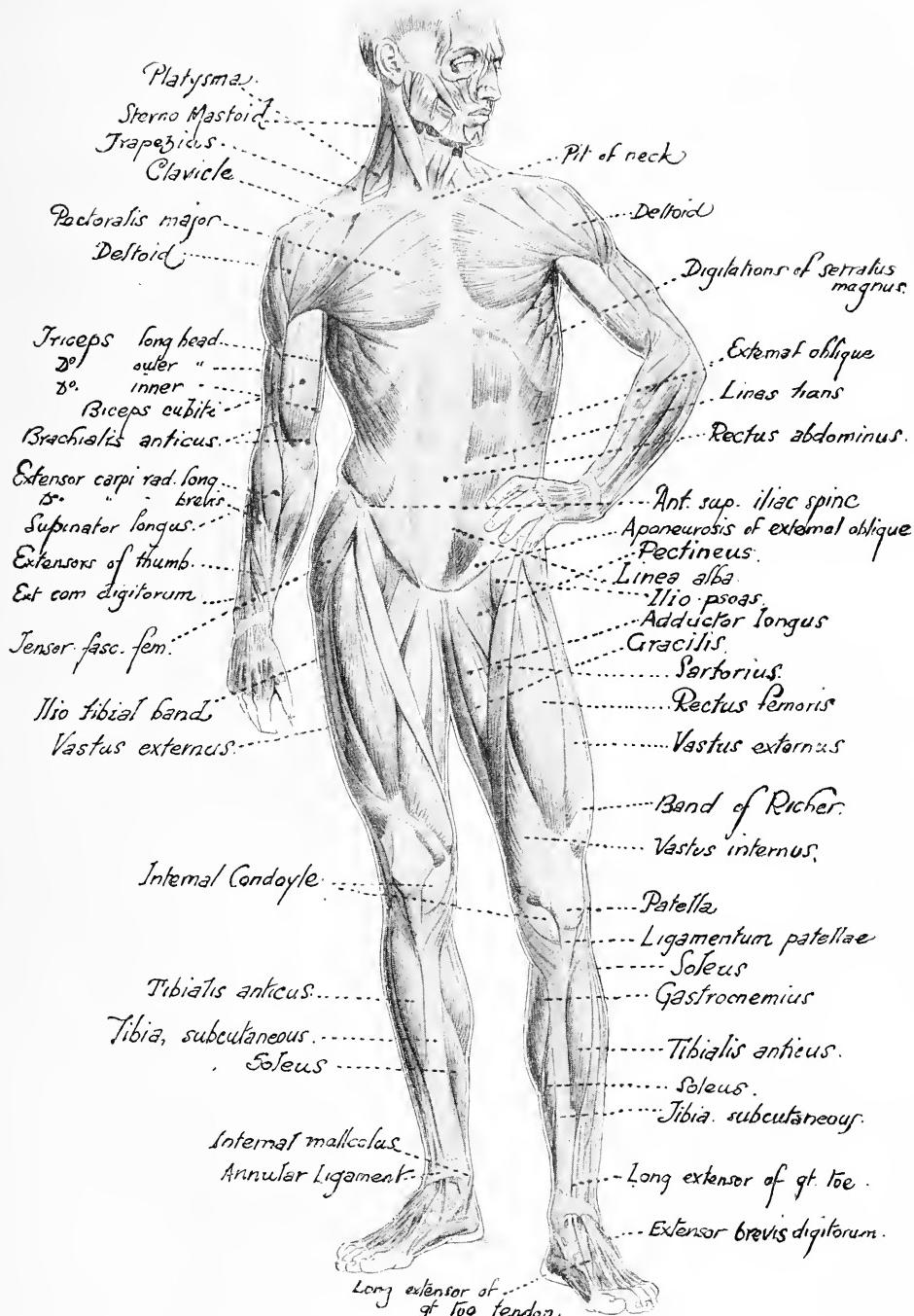
A STUDY FROM THE ANTIQUE

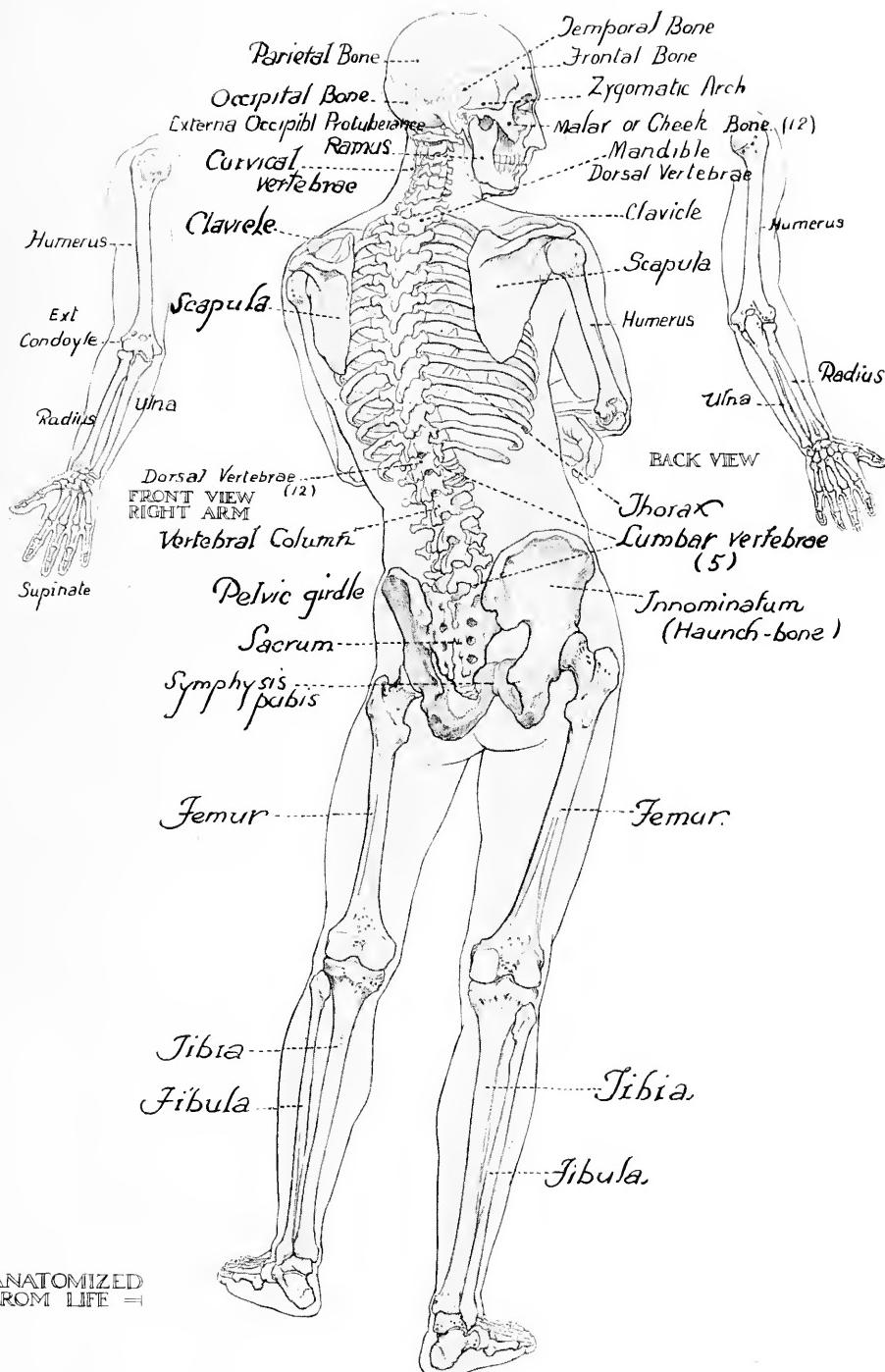
*It is probably a sound view that the antique will be better appreciated.
AFTER study from life.*



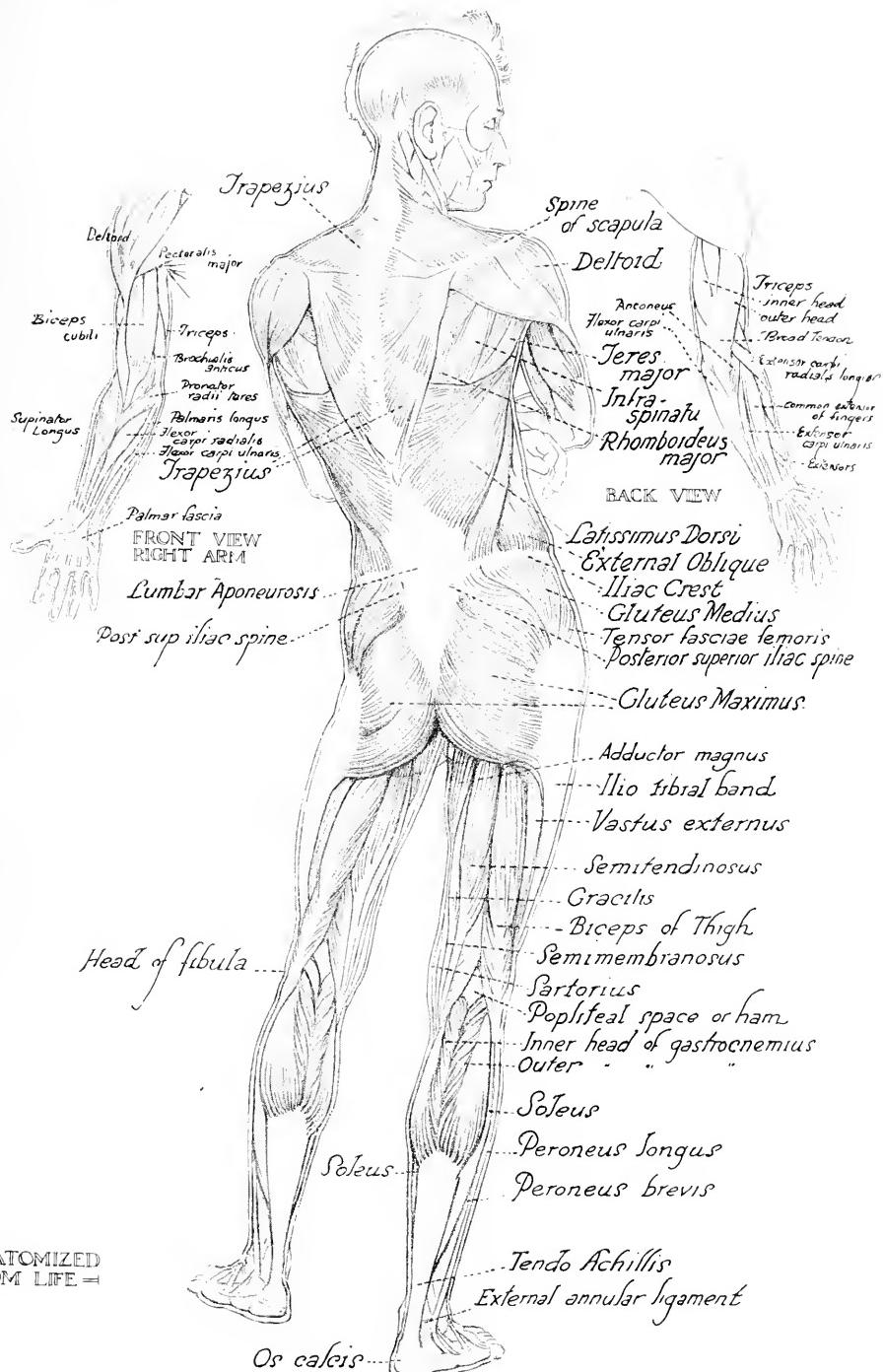
A STUDY OF THE SKELETON

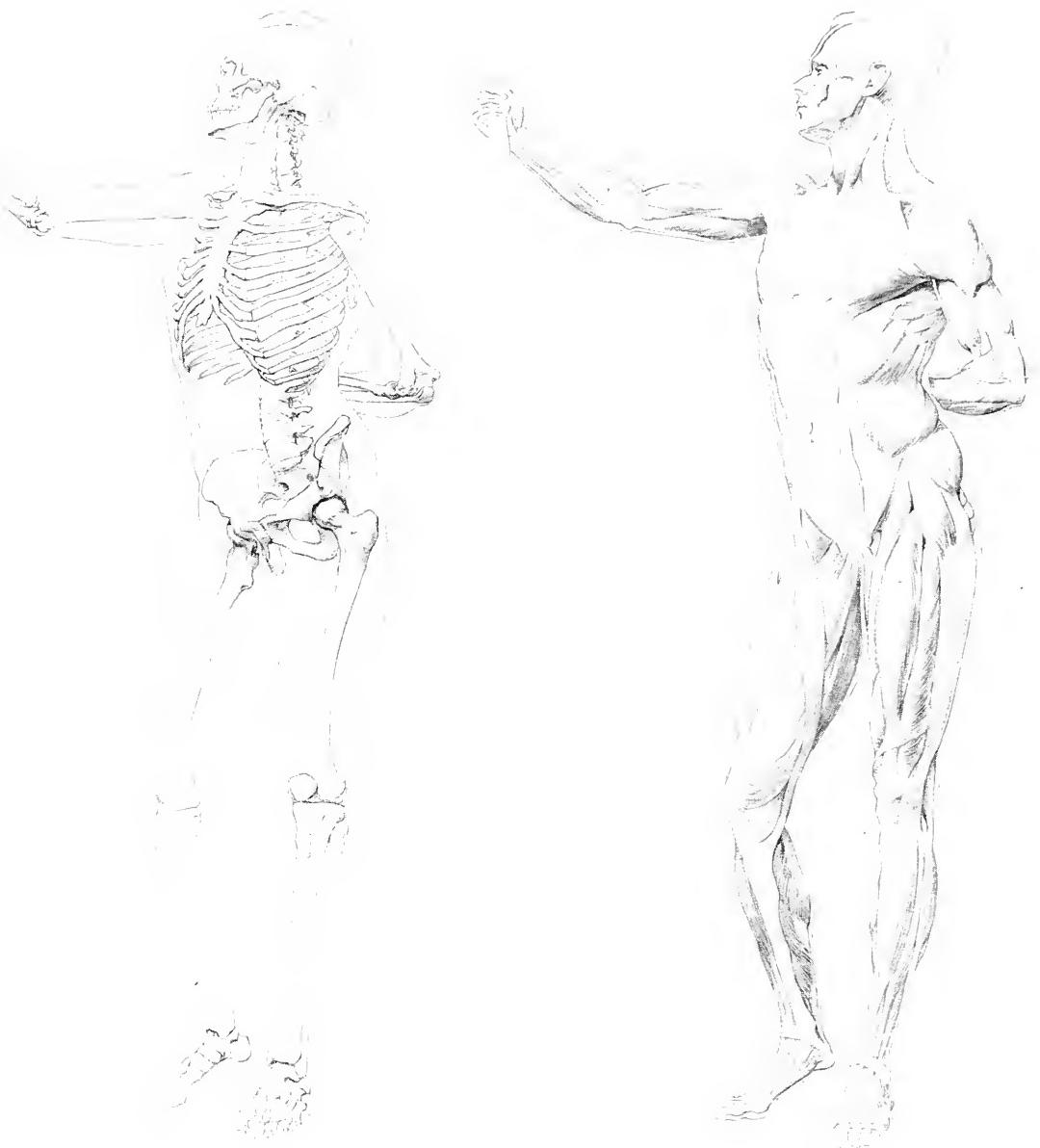
by John Watkins, St. Martin's School of Art, London.





A STUDY OF BACK VIEW OF THE SKELETON
by Eugénie Richards, Nottingham School of Art.





STUDIES OF THE SKELETON AND MUSCLES
by Ethel Marsh, Maidstone School of Art.

PLATE XIV.



STUDIES OF MUSCLES AND SKELETON
by R. F. Wilson, Nottingham School of Art.

THE BUTTOCK MUSCLE

processes, and enclosing the *erector spinae* in a fibrous sheath. In these aponeuroses certain muscles of the flank originate ; their fleshy fibres forming three muscular layers, the external oblique, the internal oblique, and the transversalis, which reach a short way forwards on to the abdominal wall and are there again replaced by aponeuroses. The aponeurosis of the intermediate muscle divides on approaching the middle line, and unites in front and behind with the aponeuroses of the inner and outer muscle respectively, enclosing the longitudinal fibres of the straight or rectus muscle at the side of the linea alba, the fibrous cord formed by the fusion of the aponeuroses of the flank muscles in the middle line.

Stretching from the higher level of the superior spine of the ilium to the pubic spine there exists a band of fibrous tissue called Poupart's ligament, formed by the lower fibres of the sheet-like tendon of an abdominal muscle. The convexity of the curve between its points of attachment is directed downward, corresponding to the furrow separating the lower abdominal region from the front of the thigh.

The ilio femoral ligament is important in preventing excessive backward extension of the thigh on the trunk ; it is attached to a part of the ilium immediately above the acetabulum, spreads fan-wise and is united with the thigh bone below along a rough line called the spiral line.

The *gluteus maximus*, or buttock muscle, has an extensive origin from the posterior fourth of the iliac crest, from the aponeurosis of the *erector spinae* muscle, from the side of the lower part of the sacrum, from the side of the coccyx, and from the surface of a ligament stretching from the sacrum to the ischium, the great sacro sciatic ligament. The fibres of the upper half of the muscle, and the superficial fibres of the lower half are inserted by an aponeurosis into the fascia running down the outer side of the thigh. The rest of the fibres of the lower half are attached by a flattened tendon to a rough ridge on the back of the thigh bone, called the gluteal ridge. The *gluteus maximus* is superficial, and its outline masked by an outer layer of fat. In the female this layer is much thicker than in the male, and the gluteal fold is more strongly marked in consequence, and transversely of greater length, while the overhang of the gluteal projection is more pronounced.

The *tensor fasciae femoris* is the muscle separating the buttock region

MUSCLES OF THE THIGH

from the anterior aspect of the thigh, its origin is tendinous from the anterior extremity of the iliac crest ; going downwards and backwards towards the trochanter, it reaches about three inches below it and blends with the fascia, forming a band along the outer side of the thigh.

The gluteus medius is another fan-shaped muscle, its superior attachment spreading over the outer surface of the iliac expansion of the haunch bone, and its fibres gathered inferiorly into a flattened tendon inserted into a line running obliquely downward and forward on the outer surface of the trochanter ; it is a powerful abductor of the thigh.

The thigh muscles in front are known as the extensor group, those at the back the flexor group. The extensors are four in number, the crureus, with the internal and external vasti on either side, and the rectus femoris superficial to the others, arising by tendons from the iliac portion of the haunch bone. All are inserted into the patella, and act as powerful extensors of the knee, in straightening the leg.

The sartorius, the longest muscle in the body, originates above from the anterior superior iliac spine and bone immediately below, passes obliquely across the front of the upper part of the thigh to the middle of the inner side, passes down and behind the most prominent part of the internal condyle of the thigh bone and along the inner side of the knee, and becomes below a thin expanded tendon turning forward under the inner tuberosity of the tibia, inserted into the subcutaneous surface of that bone close to the front tubercle. Its action is to flex the knee and hip joints.

Above and to the inner side of the sartorius lie the adductor muscles, stretching from the front of the pelvis to the upper part of the thigh bone, they assist in forming the base of the depression immediately below the groin, called the hollow of the thigh.

The adductor group includes the gracilis, which draws the knees together from the outspread position, arising by a thin tendon from the bone, close to and parallel with the symphysis pubis ; in direction it coincides with the upper and inner aspect of the thigh in profile from the front. It curves forward below the internal tuberosity of the tibia, and is inserted under the sartorius into the inner aspect of the upper portion shaft of the tibia.

The flexor group consists of the hamstring muscles on the back of the

MUSCLES OF THE LEG

thigh, comprising the biceps of the thigh, the semi-tendinosus, and the semi-membranosus, all originating from the tuberosity of the ischium and inserted in the leg bones, two into the tibia or inner bone, and the other into the fibula or outer bone.

The muscles of the front of the leg are the tibialis anticus, the extensor proprius hallucis, the extensor longus digitorum, and the peroneus tertius, which arise partly from the tibia, partly from the fibula, and from the membrane connecting the two bones which separates the front muscles of the leg from those which lie at the back. The tibialis anticus is the innermost of the group, and lies along the outer side of the tibia, arising from the upper two-thirds of it and its external tuberosity ; it is inserted into the inner surface of the internal cuneiform bone and the base of the metatarsal bone. The long extensor of the toes arises from the external tuberosity of the tibia in front of the point of its articulation with the head of the fibula, from the head of the fibula, from the anterior surface of the fibula, and from the adjacent surface of the interosseous membrane. Those fibres which arise from the front of the fibula unite in front in a tendon which passes down the anterior edge of the muscle in the lower leg. Under the anterior annular ligament it divides into four slips, which pass to the upper or dorsal surface of the four outer toes, forming expansions which have insertions into the bases of the second and third phalanges of these toes. The fibres from the lower quarter of the anterior surface of the fibula form a small slip called the peroneus tertius, which passes by a tendinous insertion into the dorsal surface of the metatarsal bone of the little toe. The great toe has a special extensor arising from the middle three-fifths of the anterior surface of the shaft of the fibula, and from the adjacent surface of the interosseous membrane.

Of the peroneal muscles two lie on the outer side of the long extensor of the toes. These are the peroneus brevis, arising from the lower two-thirds of the external surface of the fibula below the peroneus longus, and attached to the fifth metatarsal bone, and the peroneus longus, arising from the head and upper half of outer surface of fibula attached to the under side of metatarsal of great toe. Both act as extensors of the foot, and assisting the peroneus tertius in raising the outer border of the foot, turning the sole outwards.

The superficial muscles constituting the prominence of the calf at back

MUSCLES OF THE ARM

are the soleus and the gastrocnemius. The soleus is the deeper ; it arises from the head and upper fourth of tibia and fibula and is inserted at the back of the os calcis. The gastrocnemius rests upon the soleus and has no attachment to the leg bones ; it arises by two heads from the back of the thigh bones, above the condyles, and is inserted by the tendo Achillis into the back of the os calcis. Both muscles are extensors of the ankle.

The tendo Achillis, the combined tendon of the soleus and gastrocnemius, occupies the lower half of the back of the leg, receiving the fibres of the gastrocnemius in its upper surface, and those of the soleus on either side as they approach the middle line of the calf.

The important surface muscles of the foot are (1) the abductor pollicis pedis, which fills the hollow under the internal ankle, passing from the os calcis to the base of the first phalanx of the great toe ; (2) the lower part of the tendons of the extensor brevis digitorum, which arises under the external ankle and connects with the toe bases of the great and next three toes, connecting with the tendons of the long extensor.

The drawing of the arm is extremely important and should be specially studied, as this limb is more often exposed than any part of the body in illustration. The most important muscle is the triceps, which covers the entire back part of the upper arm, its function being the extension of the forearm. It is attached to the olecranon process of the ulna and to the scapula, the latter attachment giving it power to draw the arm towards and behind the trunk. In repose it is almost imperceptible, but is evident in violent action.

The brachialis anticus is attached to the lower anterior surface of the humerus, below the coronoid process, and separates the biceps and triceps. The coraco brachialis is attached to the apex of the coronoid process of the scapula, and the inner side of the middle of the humerus, anterior surface ; it is a proper adductor of the arm, and occupies a position between the biceps and triceps above the brachialis anticus. The biceps cubiti has attachments, one above the glenoid cavity and another on its apex of corocoid process of scapula, also by a tendon to the back of bicipital tuberosity of the radius ; this tendon spreads over the fascia of the flexor muscles of the forearm.

Three muscles previously dealt with, the teres major, latissimus dorsi, and pectoralis major, have much influence on the drawing of the upper arm—the

MUSCLES OF THE ARM

teres major coming from the back of the scapula, the dorsal from the iliac crest, and the pectoral from the chest wall, are all inserted in the humerus about the bicipital groove.

The two groups of muscles of the forearm operate on the wrists and hands as flexors and extensors. The supinator radii longus is the chief muscle of the extensor group ; its attachments are to the upper part of the epicondyloid ridge of the humerus and base of the styloid process of radius. Others are :—The extensor carpi radialis longoир, attached to the lower part of ridge of the humerus and base of the metacarpal bone of the first finger ; the extensor carpi radialis brevoир, attached to the external condyle of humerus, and the metacarpal bone of second finger ; the extensors pollicis, from back of ulna and radius respectively to bases of three bones of the thumb ; the extensor communis digitorum from external condyle of humerus by four tendons to the last two bones of the fingers ; the extensor minimi digiti by tendon to the external condyle, thence to base of last two bones of little finger ; the extensor carpi ulnaris from external condyle to back of base of fifth metacarpal bone ; the anconeus from back of external condyle to outer side of ulna.

The flexor or front group consists of the pronator radii teres from the inner condyle ridge to middle of outer side of the radius, the flexor carpi radialis from inner condyle to base of second metacarpal bone, the palmaris longus from inner condyle to fascia of palm, and the flexor digitorum sublimis from inner condyle to sides of second phalanges of fingers.

The arms are capable of being turned round in the actions of pronation and supination, two movements enabling the hand to rotate through an arc of half a circle, bringing either the palm or knuckles upwards. The forearm has nineteen muscles, four concerned with the movements of pronation and supination, nine with the thumb and fingers, and six with the wrist. One of the most important wrist muscles is the flexor carpi ulnaris as it influences form by giving the sharp line beneath the wrist on outer side of forearm. The muscular formation of the wrist and back of hand is shown in the diagram, plate XII. The fingers have no muscles, giving attachments only to the tendons of their controlling muscles in the arm and hand. The form of the fingers is due to the fat and fascia beneath the skin, hence the bony appearance of the hand in emaciated persons.

BOOKS ON ANATOMY

For the study of the musculation of the arm and hand I advise students to get plaster casts in prone and supine positions for reference, and trace the various attachments and movements of muscles from them and the living arm, until so thoroughly conversant with the formation that it becomes a simple matter to anatomise *from memory* the many photographic records of arms and hands here given.

In closing these remarks I cherish the fond hope that the notes on anatomy will by their very brevity induce students to assimilate and apply them thoroughly in connection with the photographs, and thus aid them to acquire the rudiments of power in expressing the figure, and peradventure the useful desire to pursue the subject further with the aid of such valuable text-books as Thompson's "Anatomy for Art Students," Hatton's "Figure Drawing," Vanderpoel's "The Human Figure," or other books dealing exhaustively with its many phases.

DESCRIPTIVE LIST OF PLATES.

Frontispiece, MODEL No. 4, is an exquisite contemplative pose, the body entirely at rest, and consequently greatly fore-shortened in comparison with an erect position.

PLATE

- I, A study in charcoal on Michelet paper, by Puvis de Chavannes.
- II, A study in oil colours by Harold Knight, Nottingham School of Art.
- III, A study in oil colours by H. Ball, Nottingham School of Art.
- IV, A study in pencil by Arthur Mason, Birmingham School of Art.
- V, A study in pencil by Arthur Mason, Birmingham School of Art.
- VI, A study in pencil by Arthur Mason, Birmingham School of Art.
- VII, A study in pencil and wash on tinted paper, by W. Walcot.
- VIII, A study from the antique.
- IX, A study of the skeleton, by John Watkins, St. Martin's School of Art, London.
- X, A study of the muscles of the body, by John Watkins, St. Martin's School of Art, London.
- XI, A study of back view of the skeleton, by Miss Eugénie Richards, Nottingham School of Art.
- XII, A study of muscles of the body, by Miss Eugénie Richards, Nottingham School of Art.
- XIII, Studies of the skeleton and muscles, by Miss Ethel Marsh, Maidstone School of Art.
- XIV, Studies of the muscles and skeleton, by R. F. Wilson, Nottingham School of Art.
- XV, MODEL No. 1, A charming decorative pose, showing arrested movement and balance in an excellent silhouette of a figure from the side. The composition of line is unusually interesting, the whole weight of figure is on the right leg, the other touching the ground with toes alone.

DESCRIPTIVE LIST OF PLATES

PLATE

- XVI, MODEL No. 1, A pose useful for the allegorical representation of crafts or music, the hands in such positions that emblems can be placed in them.
- XVII, MODEL No. 2, A child of fifteen in a pose that shows well the effect when the main weight is on left leg.
- MODEL No. 3, A position showing effect of three supports, used simultaneously.
- XVIII, MODEL No. 3, standing with the torso bent slightly forward showing the anatomy of the neck and shoulders. A useful classic pose that should drape well.
- XIX, MODEL No. 4, A superlatively useful pose for the study of anatomy, and composition of line. Note the marked contrast of subtlety and strong definition in the two sides of the figure.
- XX, MODEL No. 3, is a caryatid pose, the weight evenly distributed on both feet, the torso slightly twisted.
- XXI, MODELS Nos. 1 and 3, are two arabesques of extremely graceful lines, useful as anatomical studies. The first is poised on both feet, the other stands on the right leg.
- XXII, MODEL No. 1, arrested movement, a pose of lovely contrasting lines, useful pictorially for a carrying pose and decoratively as a supporting figure in design.
- XXIII, MODEL No. 1, is an arabesque dancing figure, perfect as a composition in itself and useful in showing various movements of the limbs, and the graceful taper of the arms.
- XXIV, MODEL No. 5, A muscular female figure in pose that shows well the slope of the body above the waist when the arms are lifted to support an object above the head.
- MODEL No. 3, is a pose indicating Sorrow. The shoulder muscles well shown.
- XXV and XXVI, MODEL No. 1, back views of poses that are lovely in line. The former useful pictorially as Charity or Contemplation, the latter a Hairdressing or purely decorative pose. The comparative anatomy of the torso in the two poses is an interesting study.

DESCRIPTIVE LIST OF PLATES

PLATE

- XXVII, MODEL No. 3, A vigorous pose that shows the same effect as in Model 5, Plate XXIV, but from a different point of view.
- XXVIII, MODEL No. 3, A useful decorative pose, showing the effect of the use of the left arm as a support in resting on a high seat.
- XXIX, MODEL No. 3, A decorative pose with much variety of movement that makes it interesting as an anatomical basis.
- XXX, MODEL No. 3, putting on sandals, a useful decorative pose giving the foreshortening of many parts of the body.
- XXXI, MODEL No. 1, A decorative pose of beautifully flowing lines, radiating from the hands clasping the right knee.
- XXXII, MODEL No. 3, A contemplative or reading pose of simple flowing lines, the left arm and hand is particularly graceful.
- XXXIII, MODEL No. 1, A decorative or "announcement" pose of great anatomical possibilities.
- XXXIV, MODEL No. 1, Vanity, a pose of infinite usefulness, pictorially, decoratively, and anatomically.
- XXXV, MODEL No. 3, is a sitting pose, the right arm resting on corner of chair back and the left on corner of seat, giving a double thrust upwards to the shoulders. The left foot is resting on two levels.
- XXXVI, MODEL No. 3, A decorative pose of sharp contrasts in direction of line that is very effective. A difficult and useful anatomical exercise.
- XXXVII, MODEL No. 5, contemplative. Reading or bathing pose of simple definite lines.
- MODEL No. 1, is a pose expressing sorrow or regret.
- XXXVIII, MODEL No. 1, A wonderful pose expressive of hope and vitality. The foreshortening is extremely well caught, and an anatomical rendering of the pose is an interesting task.
- XXXIX and XL, MODEL No. 3, are two decorative kneeling poses, complementary to each other, and useful for sculpture or church decoration work.

DESCRIPTIVE LIST OF PLATES

PLATE

- XLI, MODEL No. 1, is a beautiful side view of a sacrificial pose, giving the figure in very true proportion for anatomical study.
- XLII, MODEL No. 3, A pose of exaltation or entreaty, well caught by the photograph, and useful both pictorially and in decoration.
- XLIII, MODEL No. 1, Two poses of pictorial interest, the former remarkable for its simplicity of line, the latter useful for its sense of poised and graceful arrested action in kneeling.
- XLIV, MODEL No. 4, A pose that shows usefully the poise of head and neck and soft contours of shoulders in female.
- MODEL No. 3, An interesting decorative pose in which the upper arms and lower legs make a straight line. Anatomically an extremely useful exercise.
- XLV, MODEL No. 1, A contemplative or reading pose of pronounced decorative quality.
- MODEL No. 3, A combined action of kneeling and stretching with body half turned.
- XLVI, MODEL No. 5, "Waking," a beautiful recumbent pose, with useful detail in the foreshortening of the right arm and thighs, and the finely modelled left arm and shoulder. A painter's or modeller's subject, and an interesting anatomical study.
- XLVII, MODEL No. 5, is a useful decorative pose, interesting in the turn of the upper part of torso supported by right arm. The pose is a development of that photographed in Plate XXXIII.
- XLVIII, MODEL No. 3, Two recumbent poses that give a vivid idea of the difficulty of drawing such unless the anatomy is thoroughly understood.
- MODEL No. 5, the shoulder muscles in the upper and the chest and abdominal muscles in the lower are plainly marked, and both are valuable anatomical subjects.
- XLIX, MODEL No. 1, is a study in flowing lines, useful for decorative work. The left forearm and hand is beautifully shown in foreshortening.

DESCRIPTIVE LIST OF PLATES

PLATE

- L, MODELS Nos. 6 and 7, a group showing a charming caryatid pose in the little boy of five, and a useful and unusual contemplative pose of a woman holding one object and looking at another.
- LI, Ditto, Ditto, In an exquisite combination of line that offers suggestion to the sculptor and decorator, and is anatomically interesting owing to the curved thrusts of the whole body line in both models.
- LII, Ditto, Ditto, In a decorative group that suggests sculpture.
- LIII, MODEL No. 8, A fine study of a well-developed male of twenty-four, in which the anatomy of the torso is evident.
- LIV, MODEL No. 9, A beautifully balanced figure of a man with catapult with the muscles of the back and arm finely shown.
- LV, MODEL No. 10, An unusually beautiful pose of an athlete stretching forward on the right leg and thrusting both arms out and back.
- LVI, MODEL No. 10, A throwing pose in which the arms make an interesting decorative line.
- LVII, MODEL No. 9, A fine anatomical study of a man pulling up a length of rope.
- LVIII, MODEL No. 10, 1. The aspect of a body completely opposed to the direction of the legs. 2. A development of the pose in Plate XLII. "The Vision."
- LIX, MODEL No. 10, is a man striking, harpooning, leaning on a staff, or bending to look over a precipice. The various foreshortenings make a useful anatomical exercise.
- LX, MODEL No. 8, LXI, MODEL No. 8, LXII, MODEL No. 11, MODEL No. 8, LXIII, MODEL No. 8, | Various poses of young men, or poses that are useful as anatomical studies. The first photograph on Plate LX and those on Plates LXI and LXIII are excellent line compositions, giving some decorative suggestions in addition to their value as subjects to anatomise.
- LXIV, LXV, LXIX, MODELS Nos. 8 and 12, are decorative studies of brothers at play.

DESCRIPTIVE LIST OF PLATES

PLATE

- LXVI, MODEL No. 8, Two poses from the same model. The upper indicative of grief or weariness, the lower an athlete commencing to run, both giving useful opportunities for anatomical study.
- LXVII, MODEL No. 12, is a boy of twelve climbing on to a sofa, an unusually interesting study of arrested movement.
- LXVIII, MODELS Nos. 8 and 11, are two decorative studies of young men in which the anatomy is well shown, and which suggest sculpture.
- LXX, MODEL No. 10, A beautiful semi-recumbent pose, useful for the decorator, sculptor, or painter. The uplifted arm is finely shown, and the flowing lines of the body and legs suggest development of the underlying muscles that should be an interesting study.
- LXXI, MODEL No. 8 (left) A young man picking up a stick, beautiful as a composition and plainly showing the muscular development.
- MODEL No. 12 (right) A boy playing on a pipe—a young faun.
- LXXII, LXXIII, LXXIV, MODEL No. 12, Various studies of a boy looking up, listening, warning, lifting and stretching.
- LXXV, MODEL No. 6, Two poses of a boy aged five years.
- LXXVI, MODEL No. 8, A Greek study of an artist looking at a piece of craft work, monumental in its dignity, and a splendid subject for an anatomical study.
- LXXVII, MODEL No. 11, is a man with a catapult: a vigorous standing pose, and a good straightforward anatomical subject with the knee bones and thoracic muscles plainly marked.



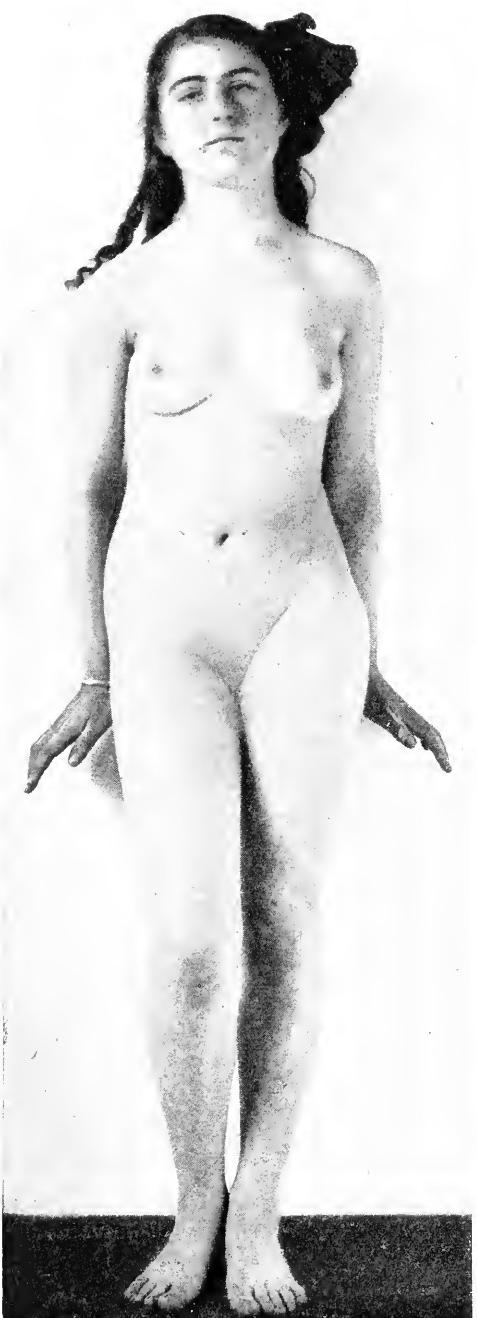
MODEL NO. 1.

PLATE XVI.



MODEL NO. 1.

PLATE XVII.

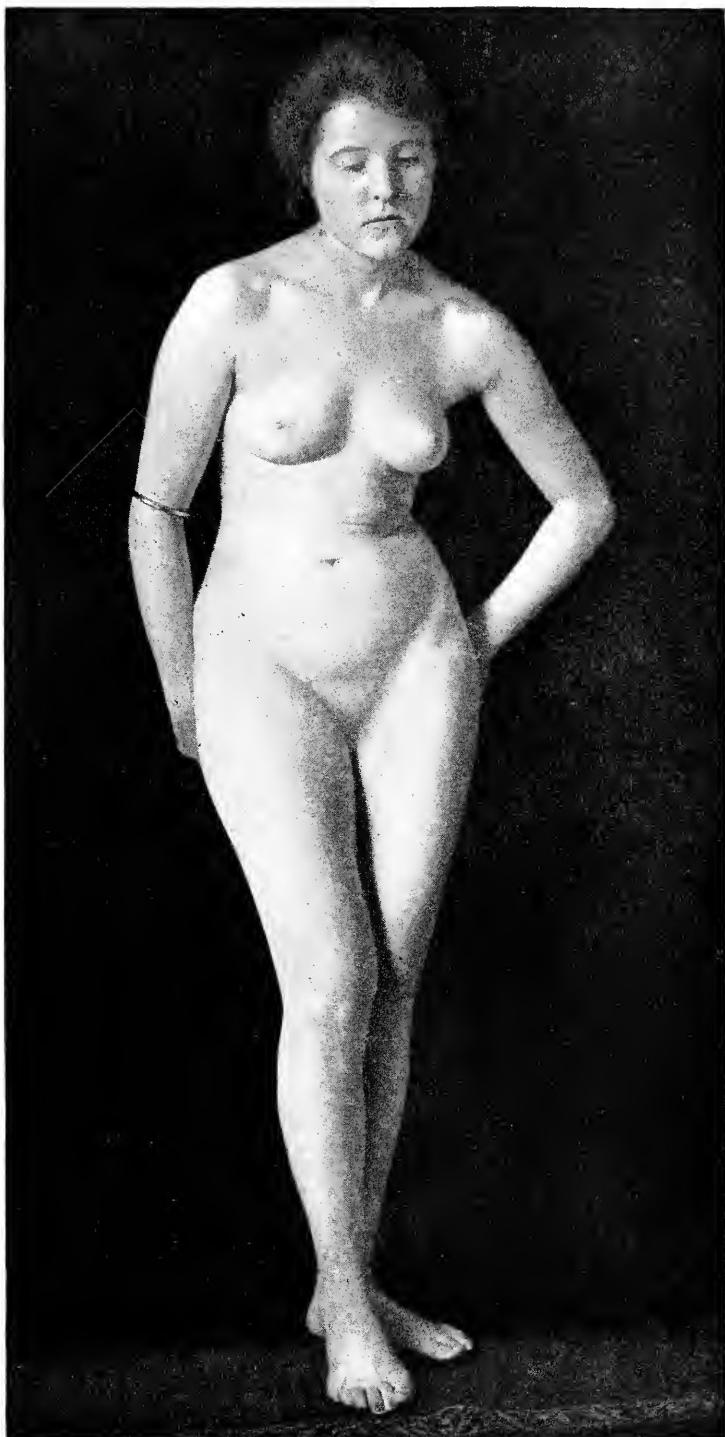


MODEL NO. 2.



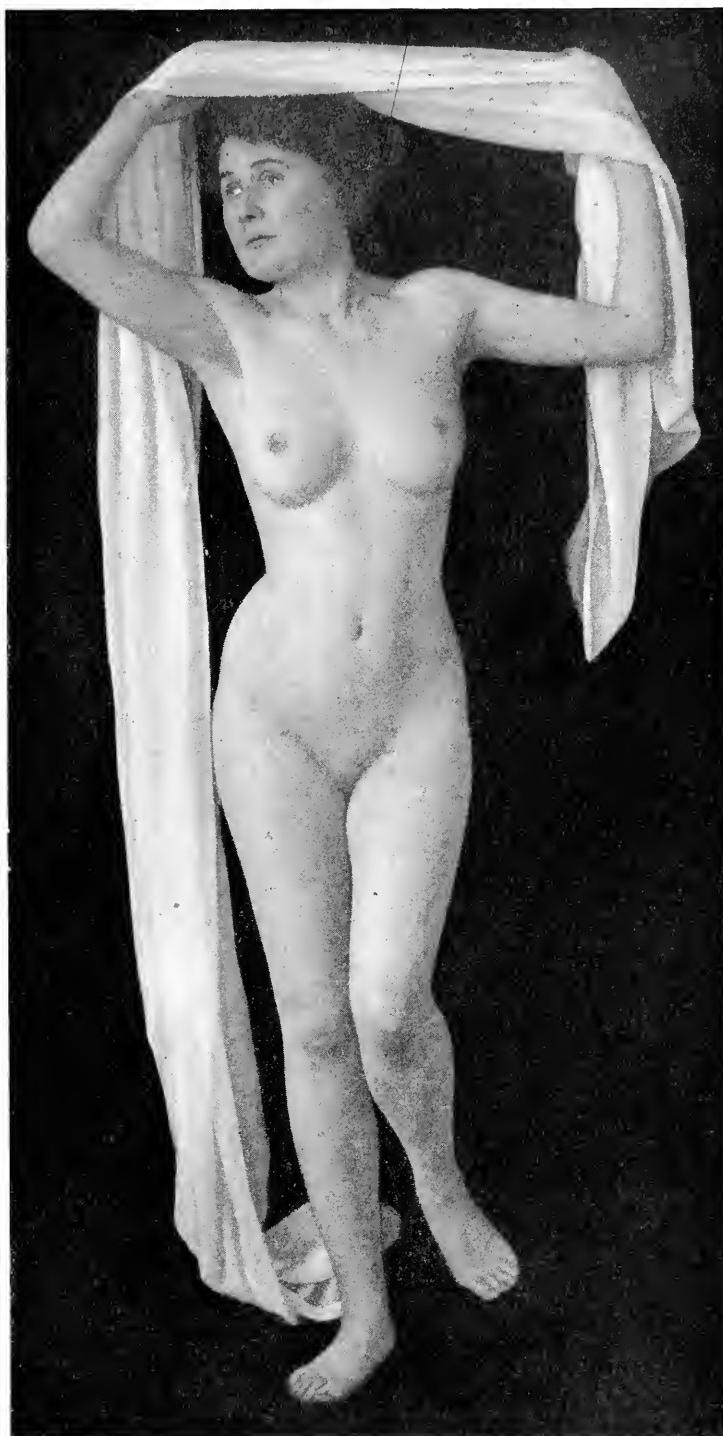
MODEL NO. 3.

PLATE XVIII.



MODEL NO. 3.

PLATE XIX.



MODEL NO. 4.

PLATE XX.

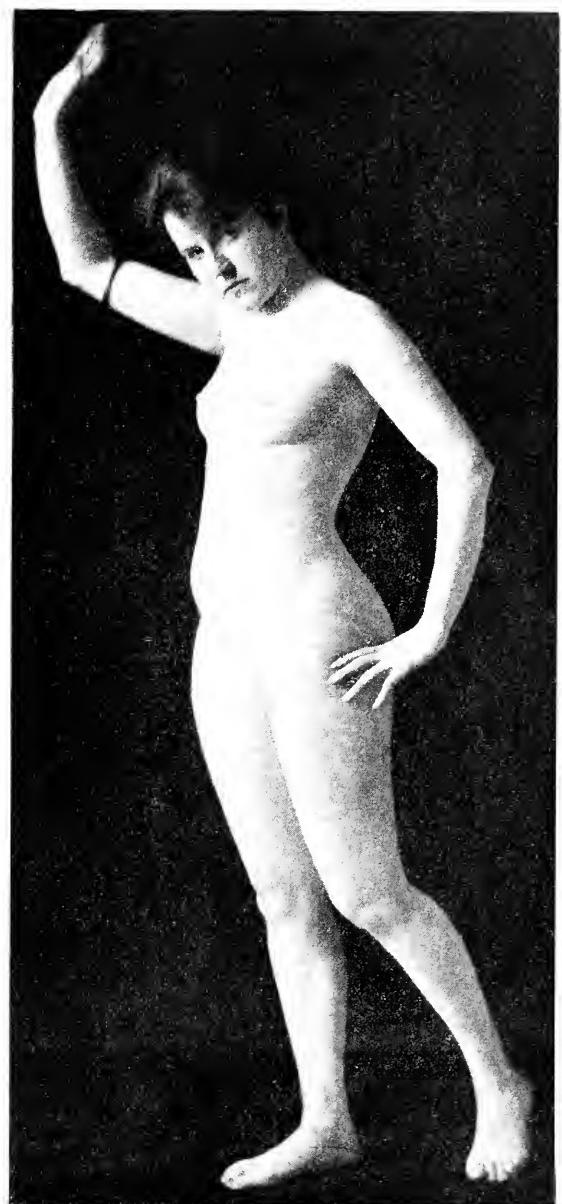


MODEL NO. 3.

PLATE XXI



MODEL No. 1.



MODEL No. 3.

PLATE XXII.



MODEL NO. 1.

PLATE XXIII.

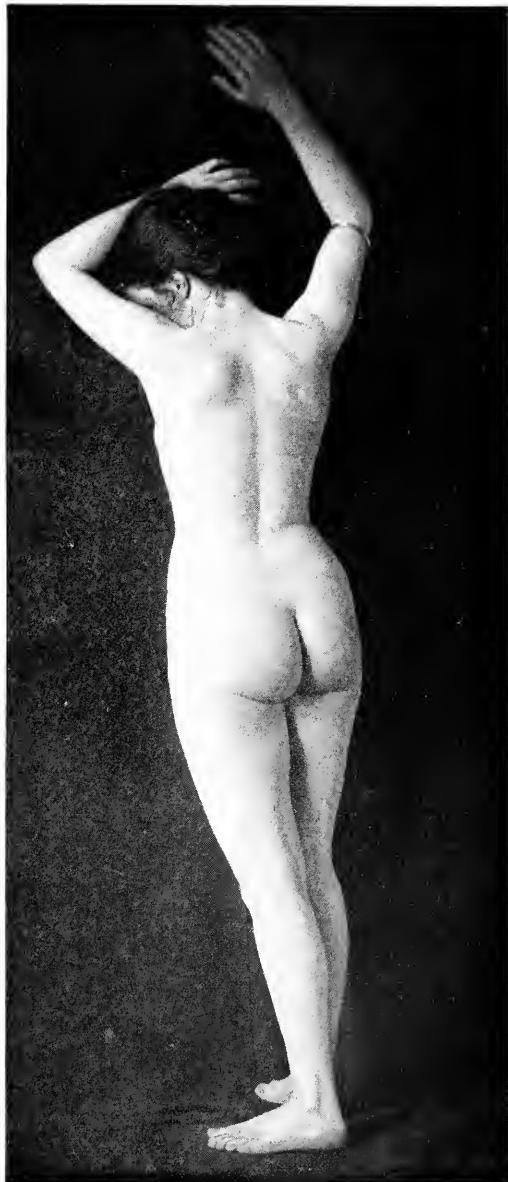


MODEL NO. 1.

PLATE XXIV.

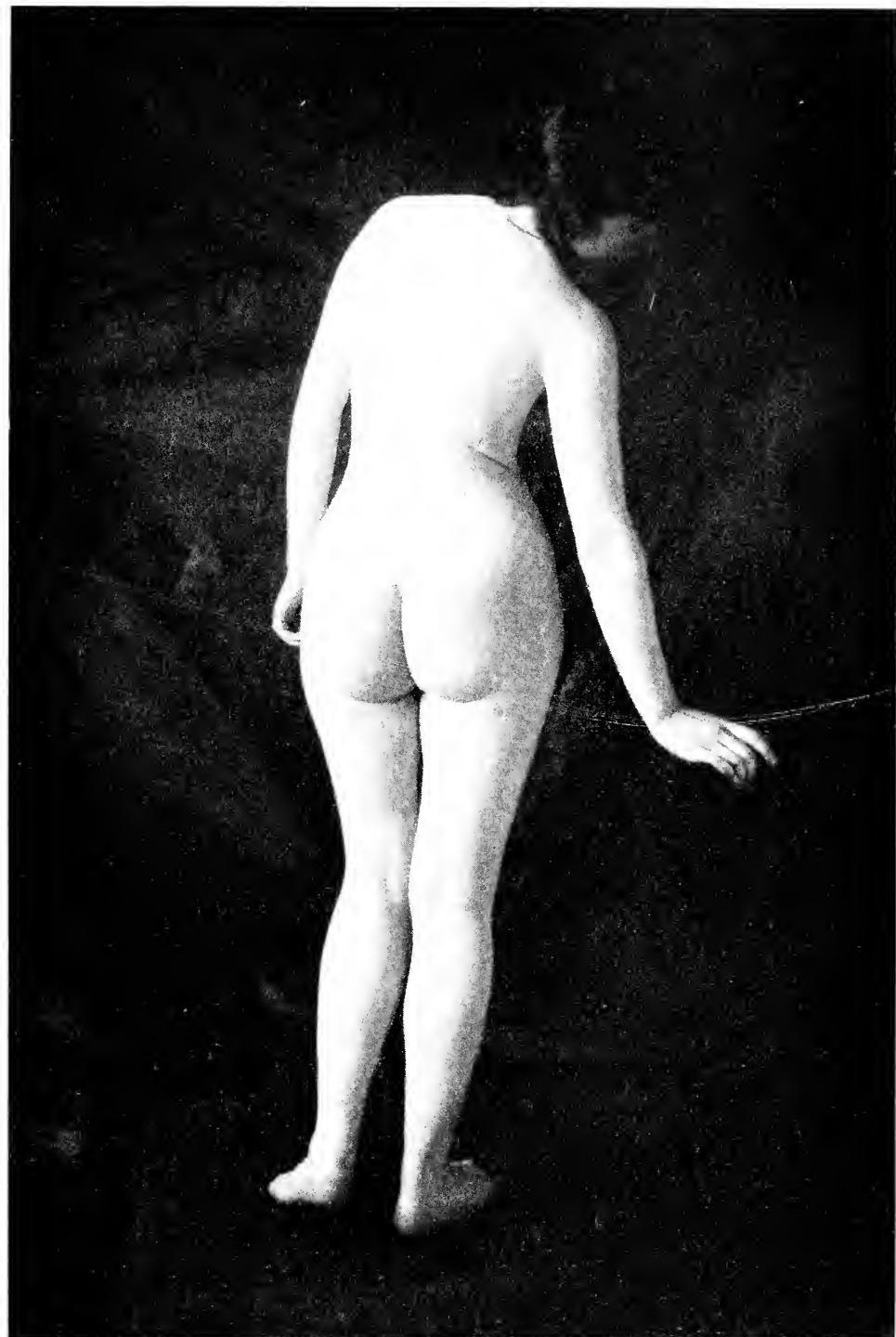


MODEL NO. 5.



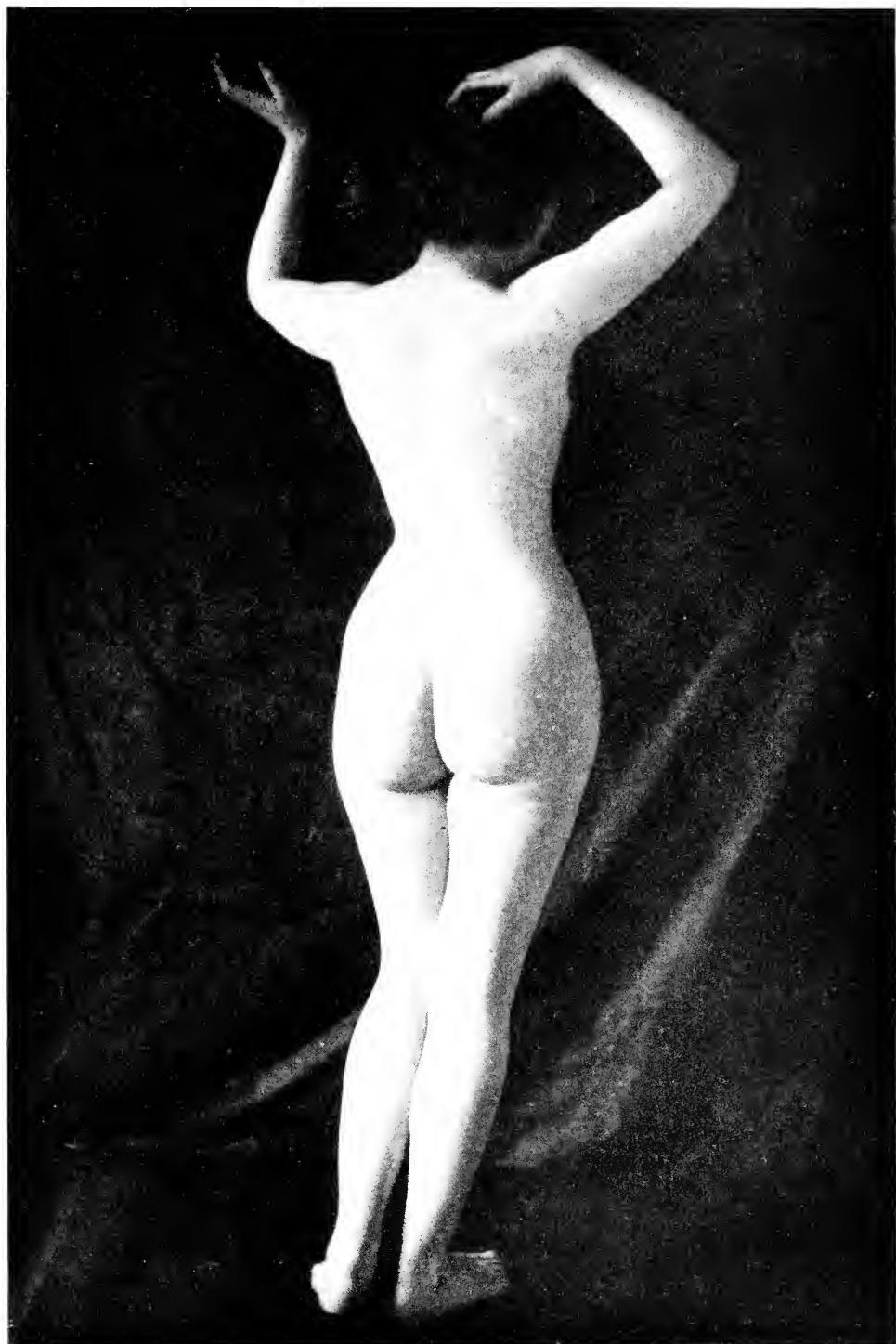
MODEL NO. 3.

PLATE XXV.



MODEL NO. 1

PLATE XXVI.

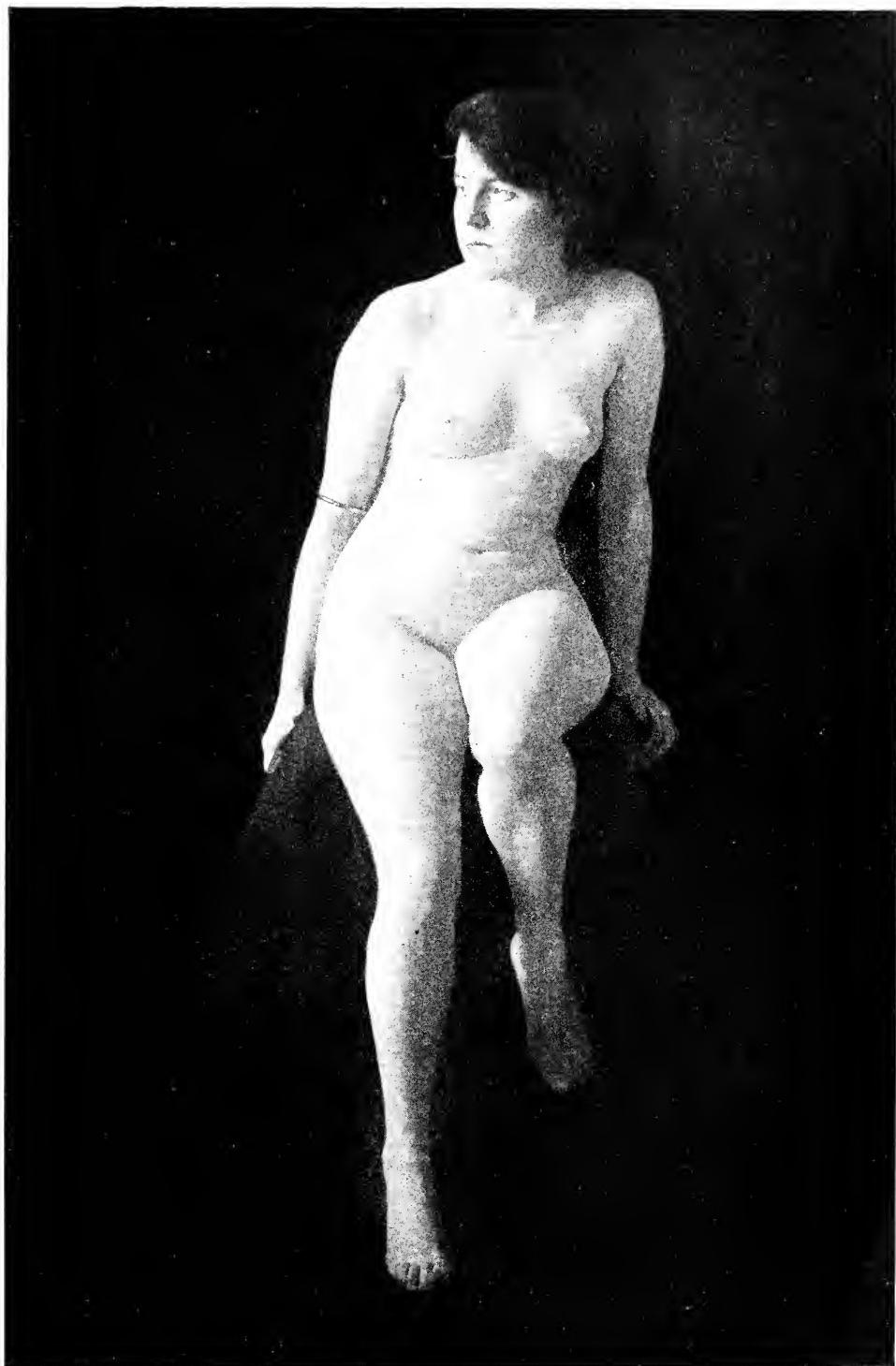


MODEL NO. 1.

PLATE XXVII.

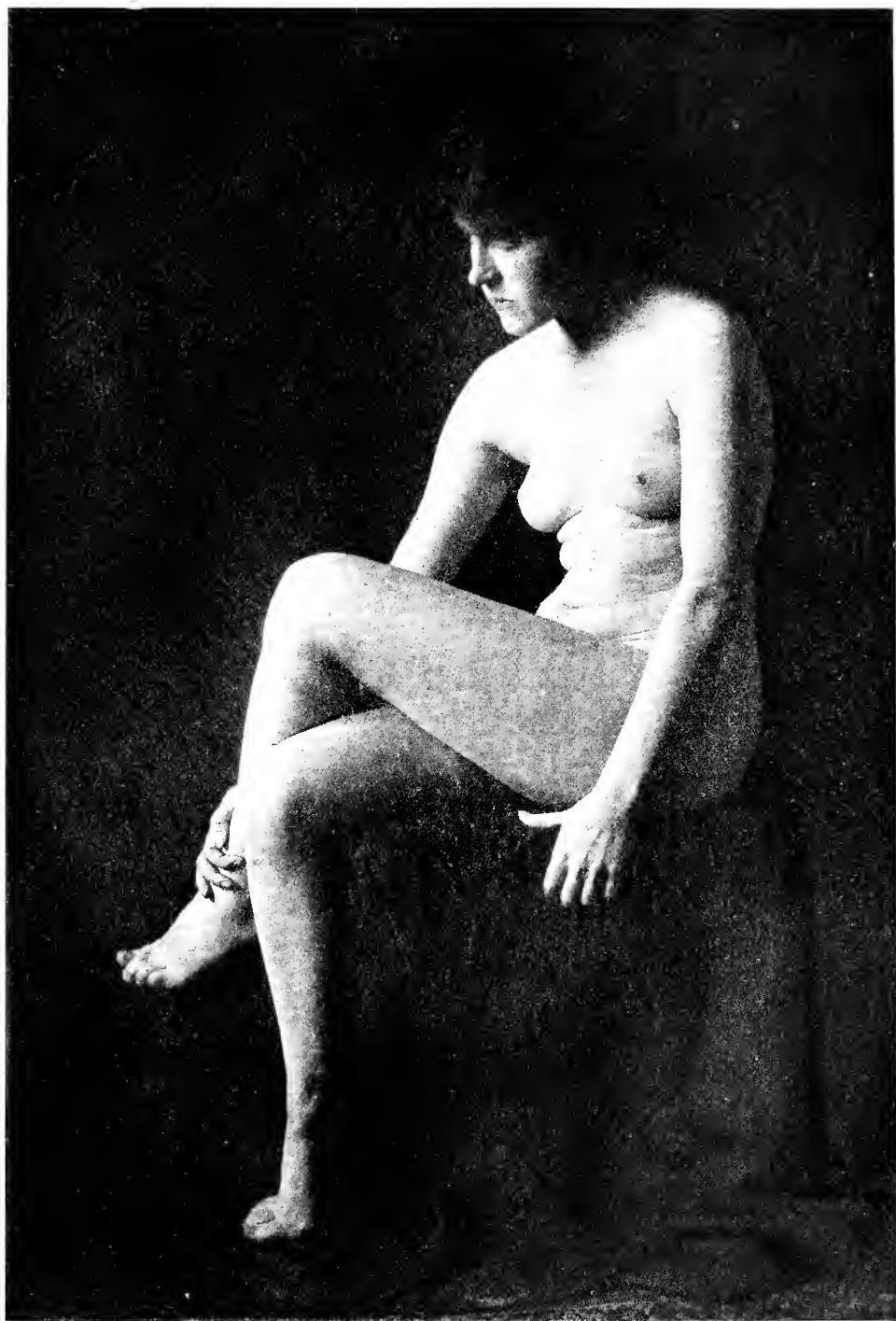


MODEL NO. 3.



MODEL NO. 3.

PLATE XXIX.



MODEL No. 3.

PLATE XXX.



MODEL NO. 3.

PLATE XXXI.



MODEL NO. 1.

PLATE XXXII.



MODEL NO. 3.

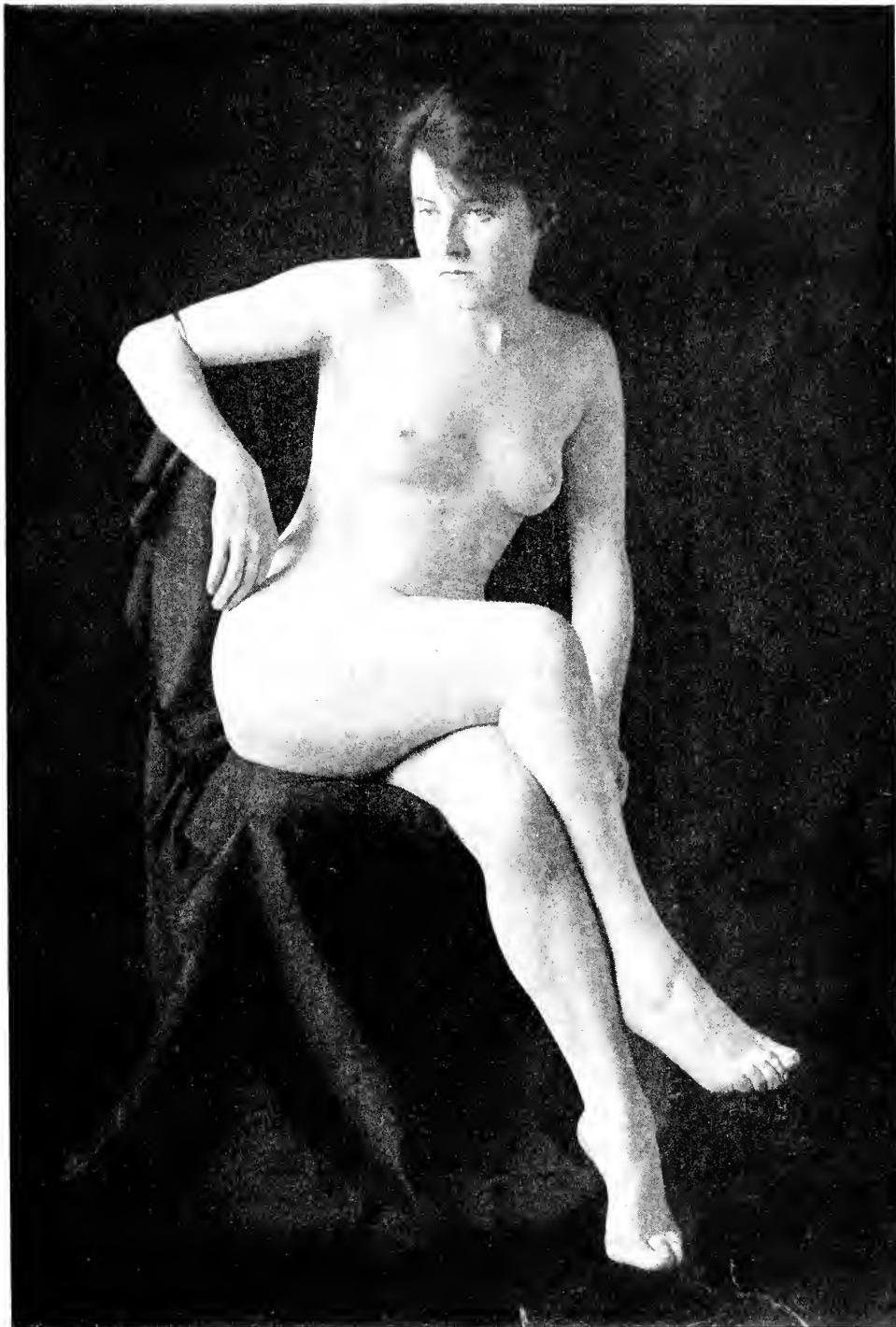




MODEL No. 1.



MODEL No. 1.



MODEL NO. 3.

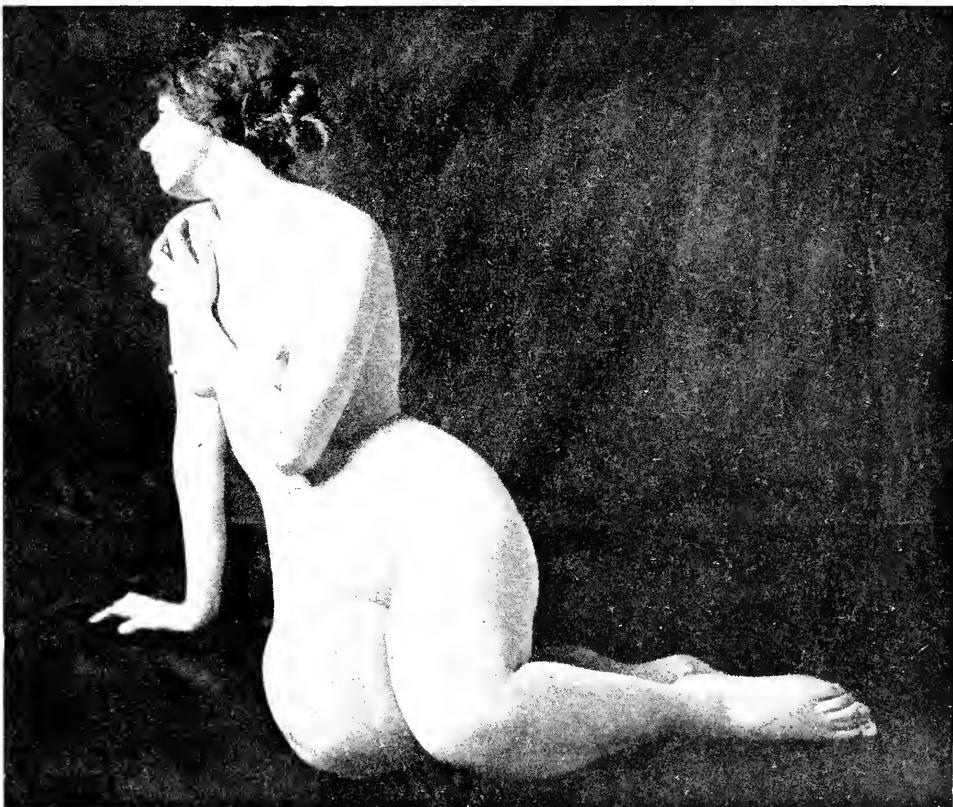
PLATE XXXVI.



MODEL No. 3.



MODEL NO. 5.



MODEL NO. 1.



MODEL No. 1.

PLATE XXXIX.



MODEL NO. 3.

PLATE XL.



MODEL No. 3.



MODEL No. 1.



MODEL NO. 3.

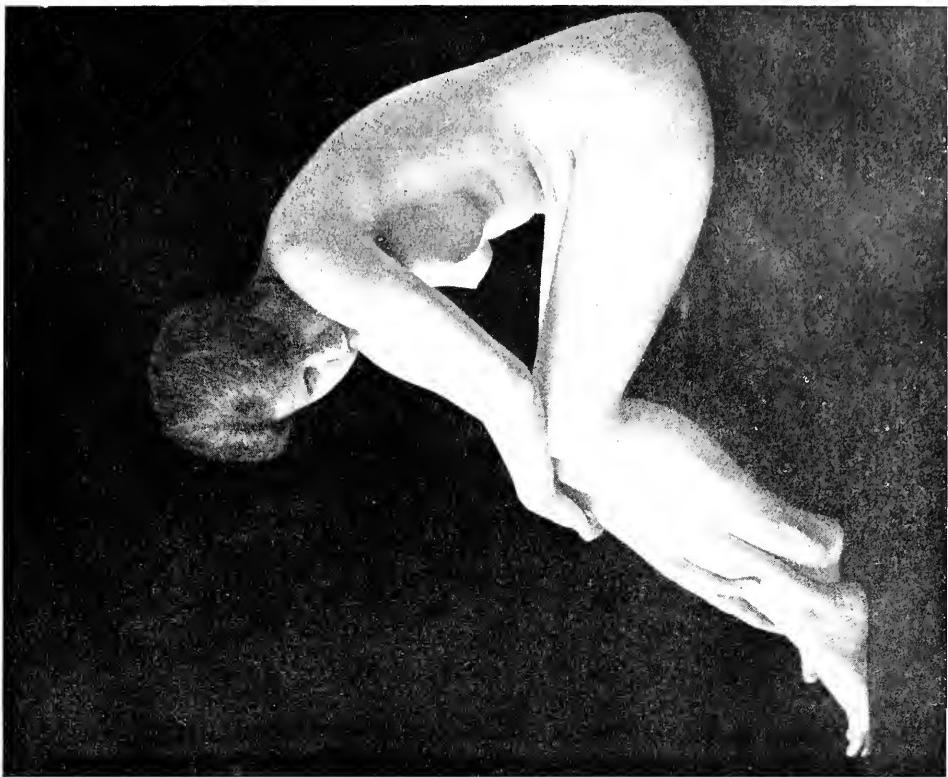
PLATE XLIII.



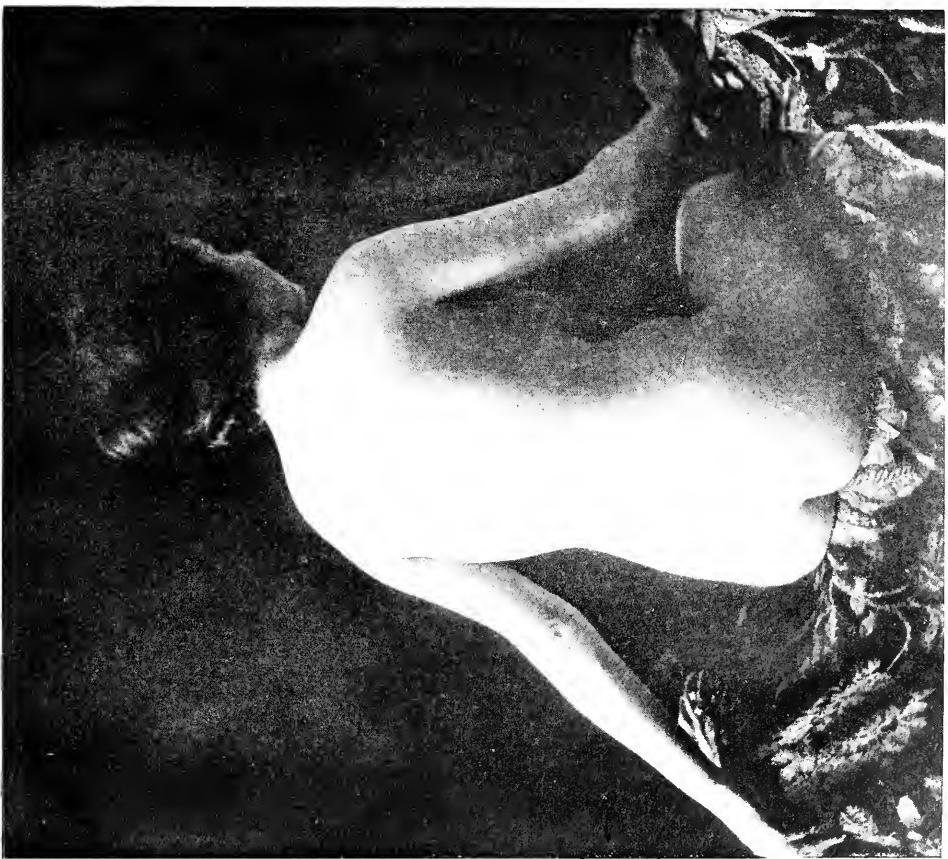
MODEL NO. 1.



PLATE XLIV.

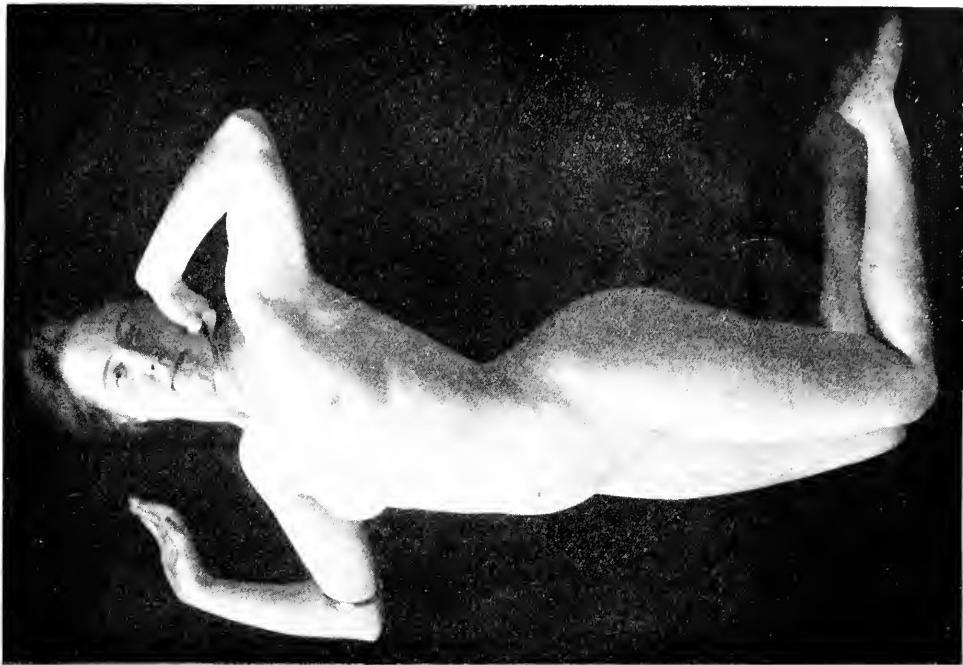


MODEL No. 3.

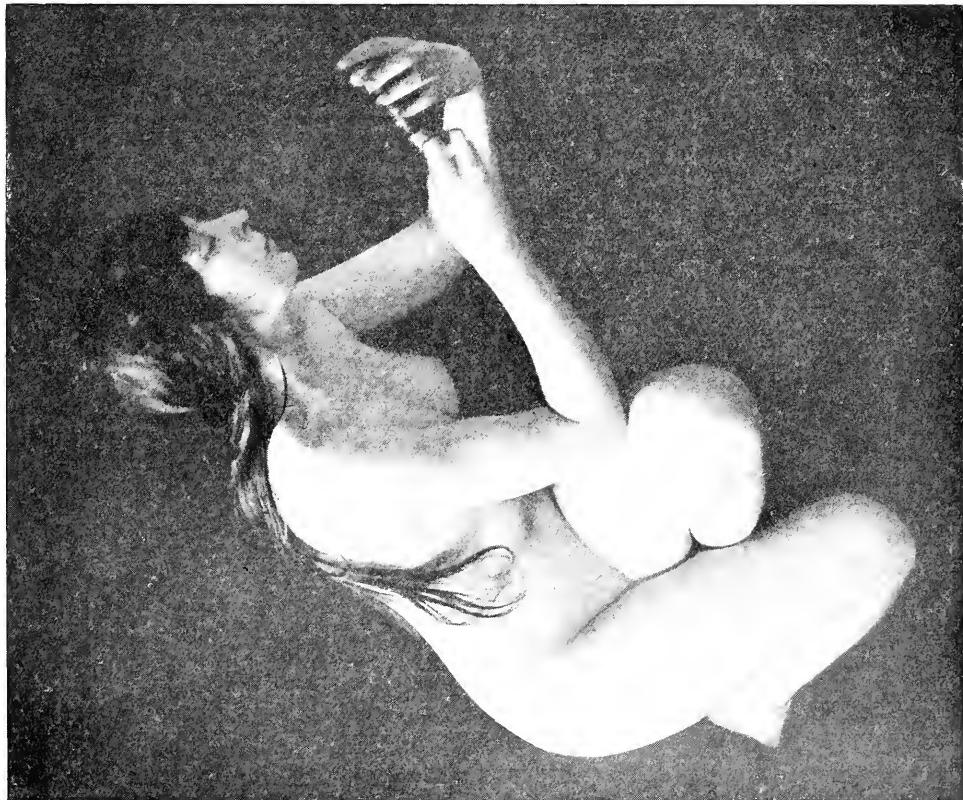


MODEL No. 4.

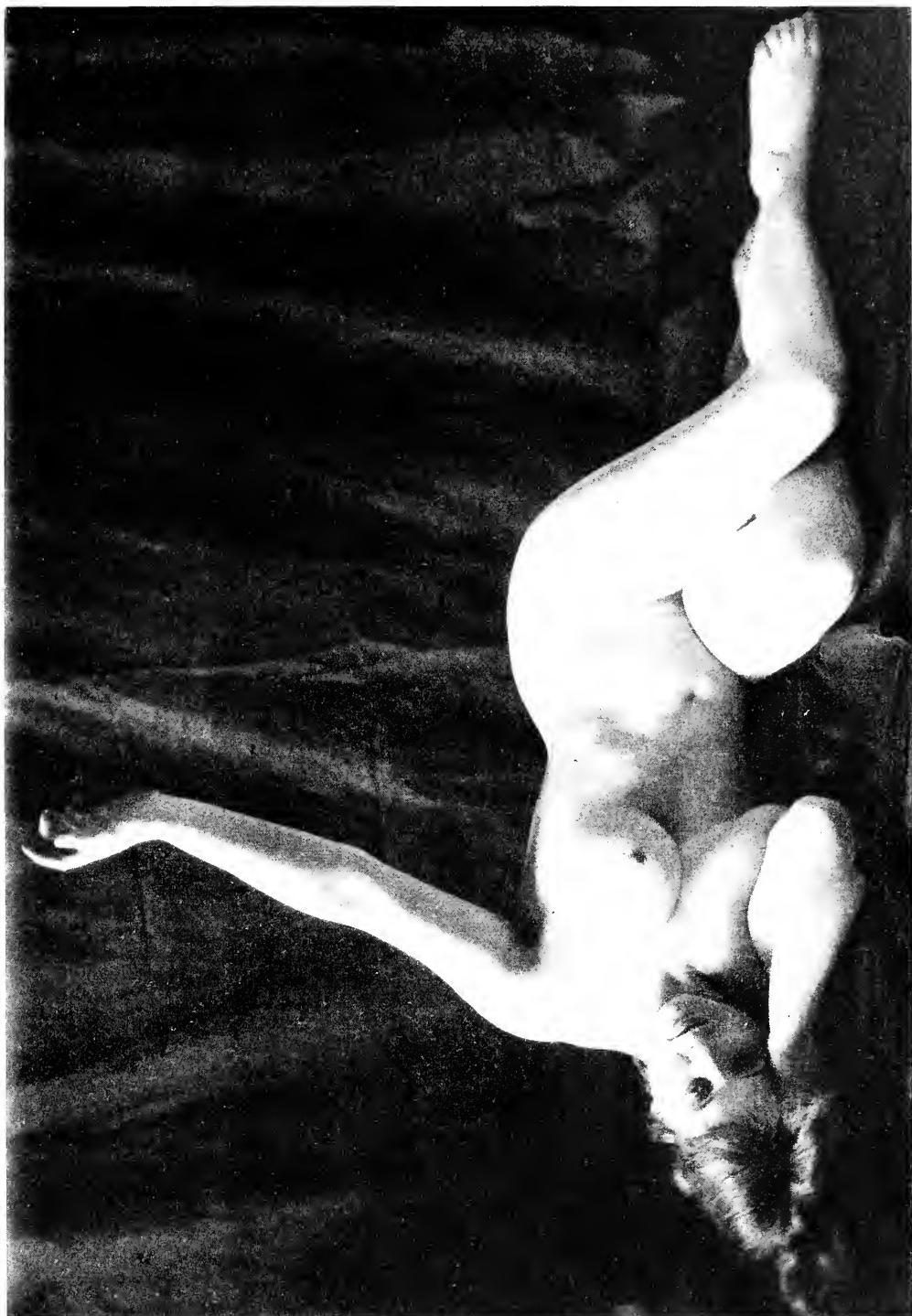
PLATE XLV.



MODEL No. 3.



MODEL No. 1.



MODEL NO. 5. "WAKING."

PLATE XLVII.



MODEL NO. 5.

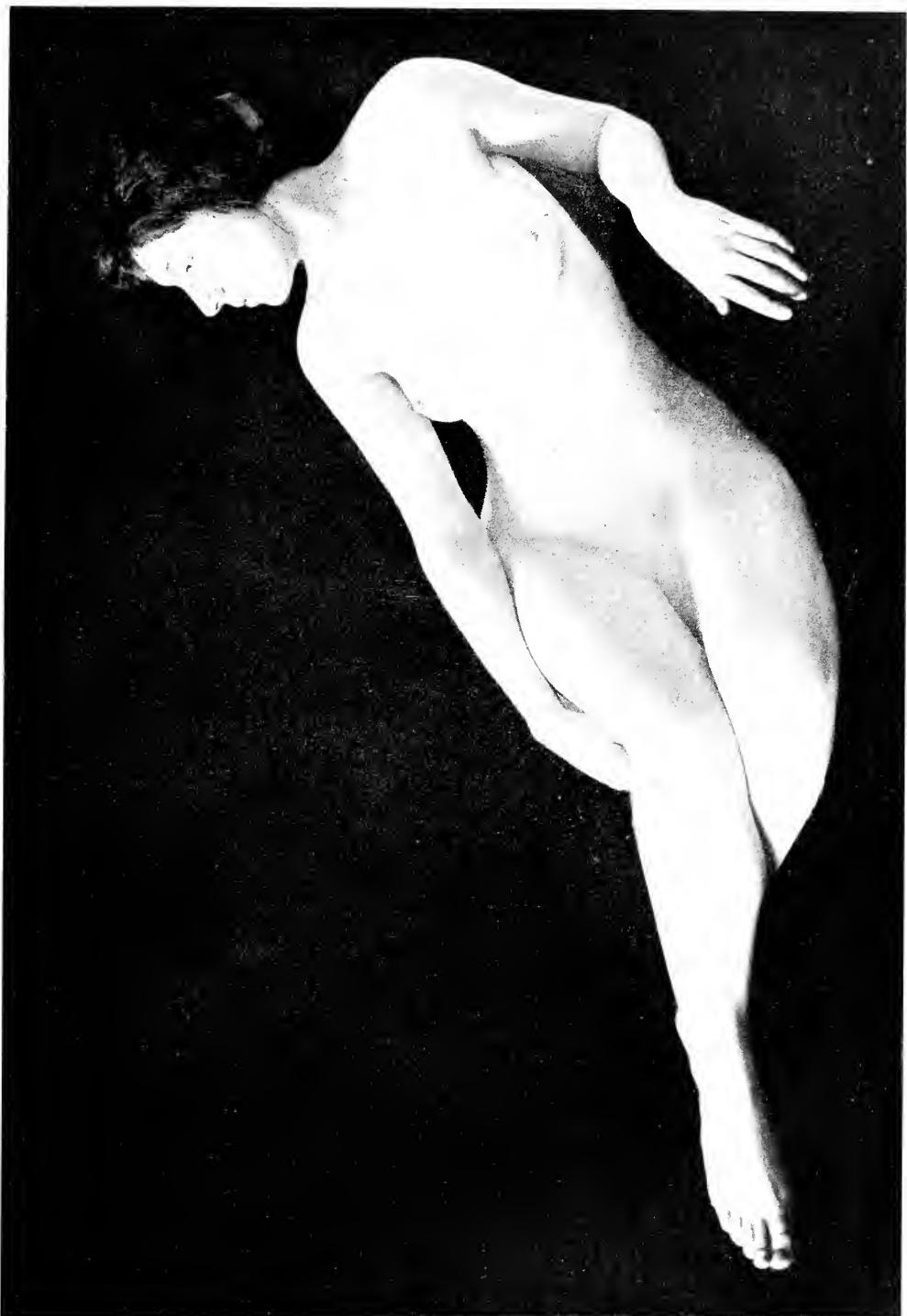
PLATE XLVIII.



MODEL No. 3.

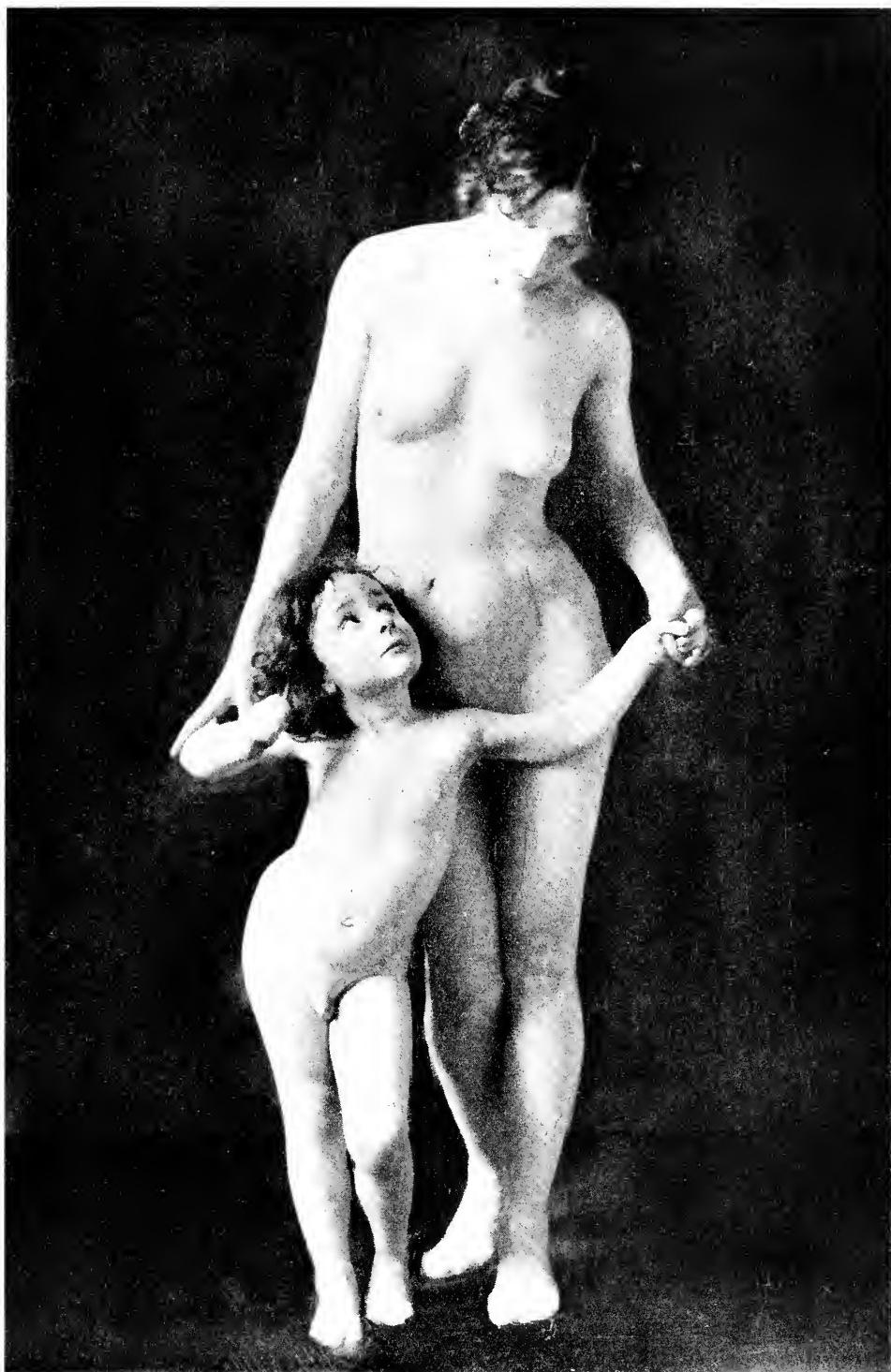


MODEL No. 5.





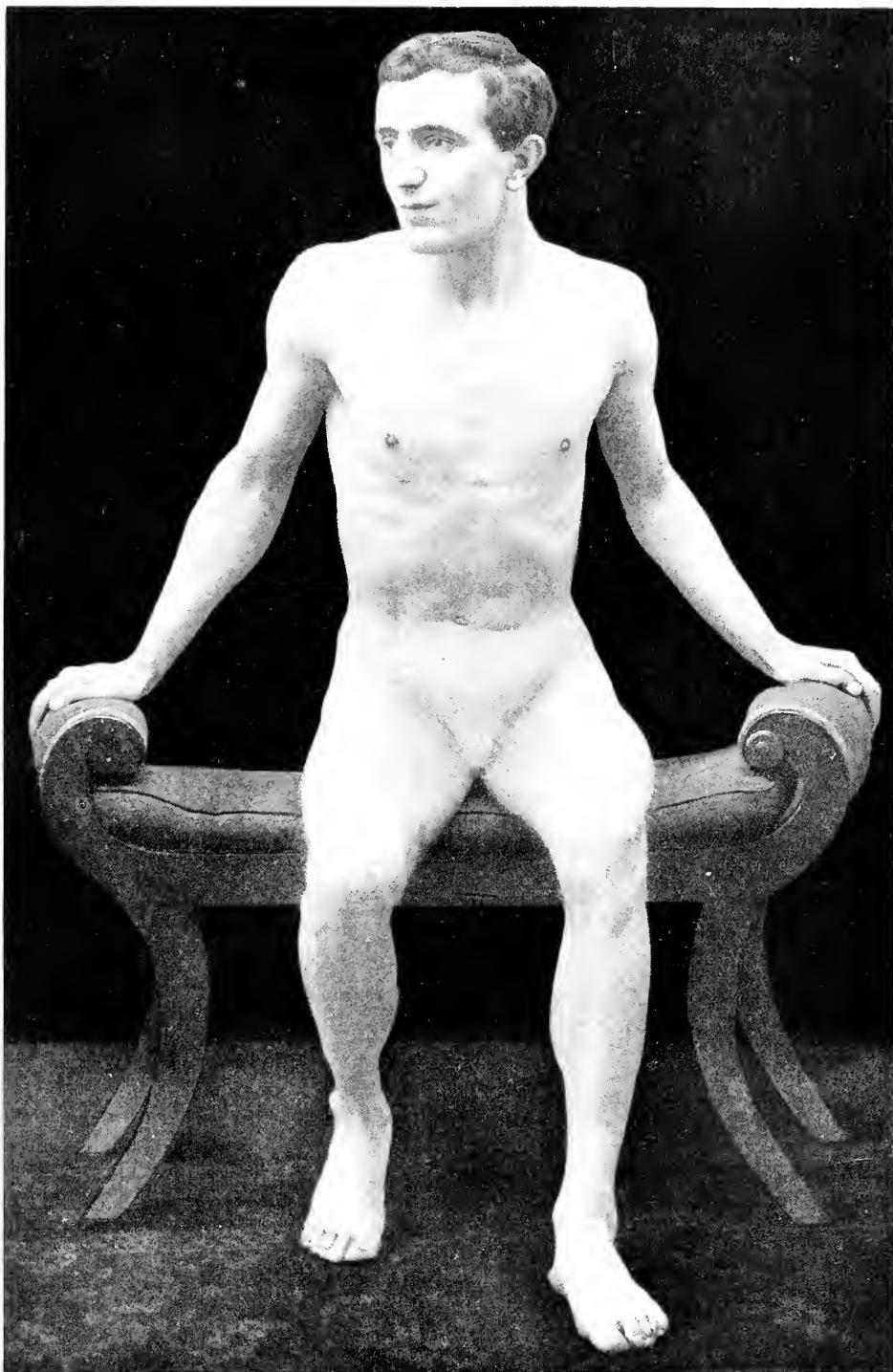
MODELS NOS. 6 AND 7.



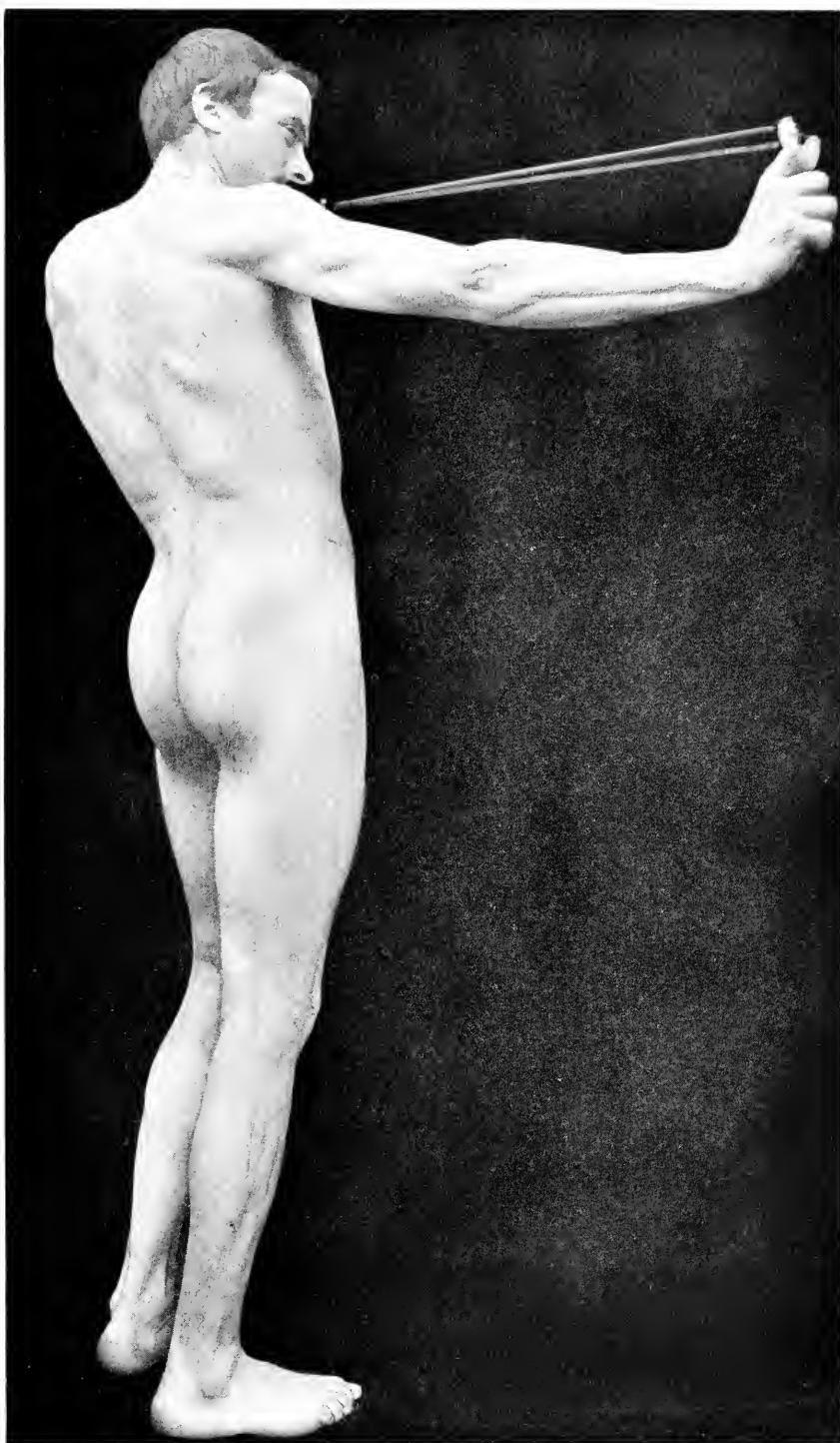
MODELS NOS. 6 AND 7.



MODELS NOS. 6 AND 7.



MODEL NO. 8.



MODEL NO. 9.

PLATE LV.

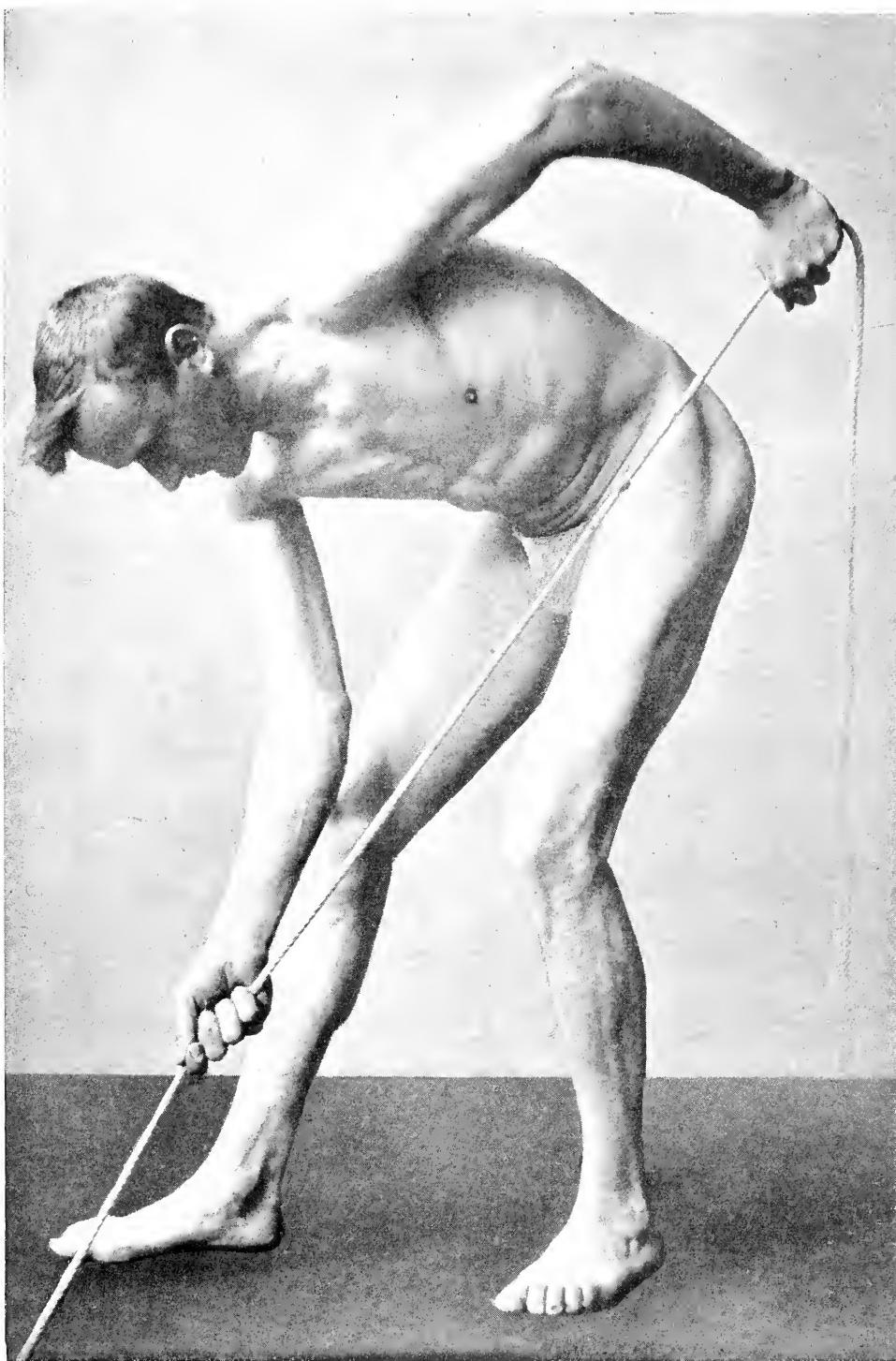


MODEL NO. 10.

PLATE LVI.

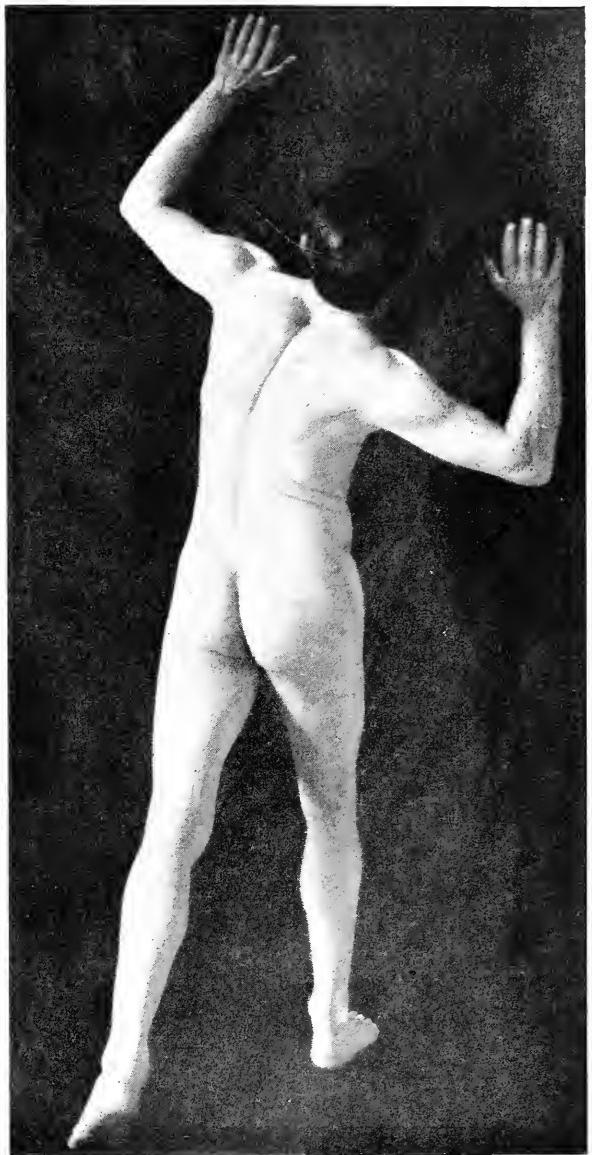
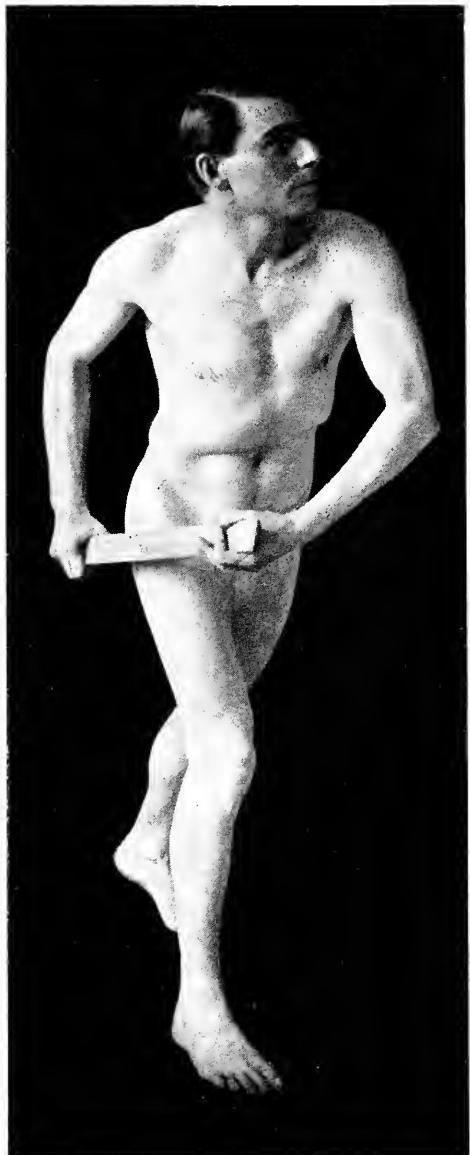


MODEL NO. 10.



MODEL NO. 9.

PLATE LVIII.



MODEL No. 10.

"THE VISION."



MODEL NO. 10.

PLATE LX.



MODEL No. 8.

PLATE LXI.

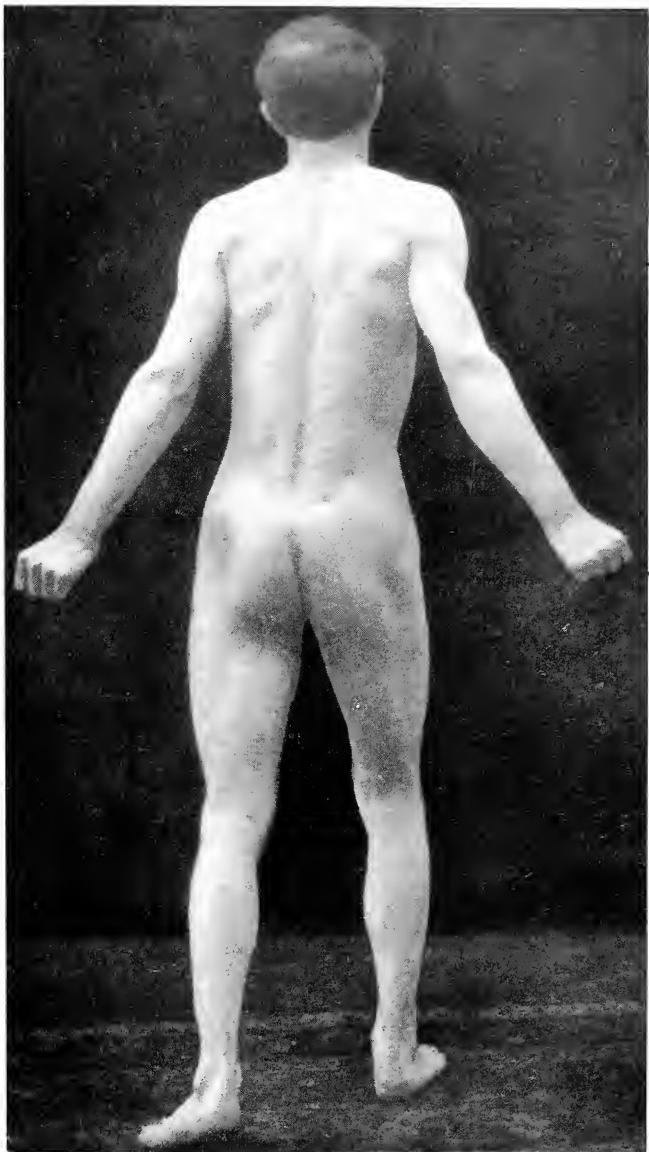


MODEL NO. 8.

PLATE LXII.

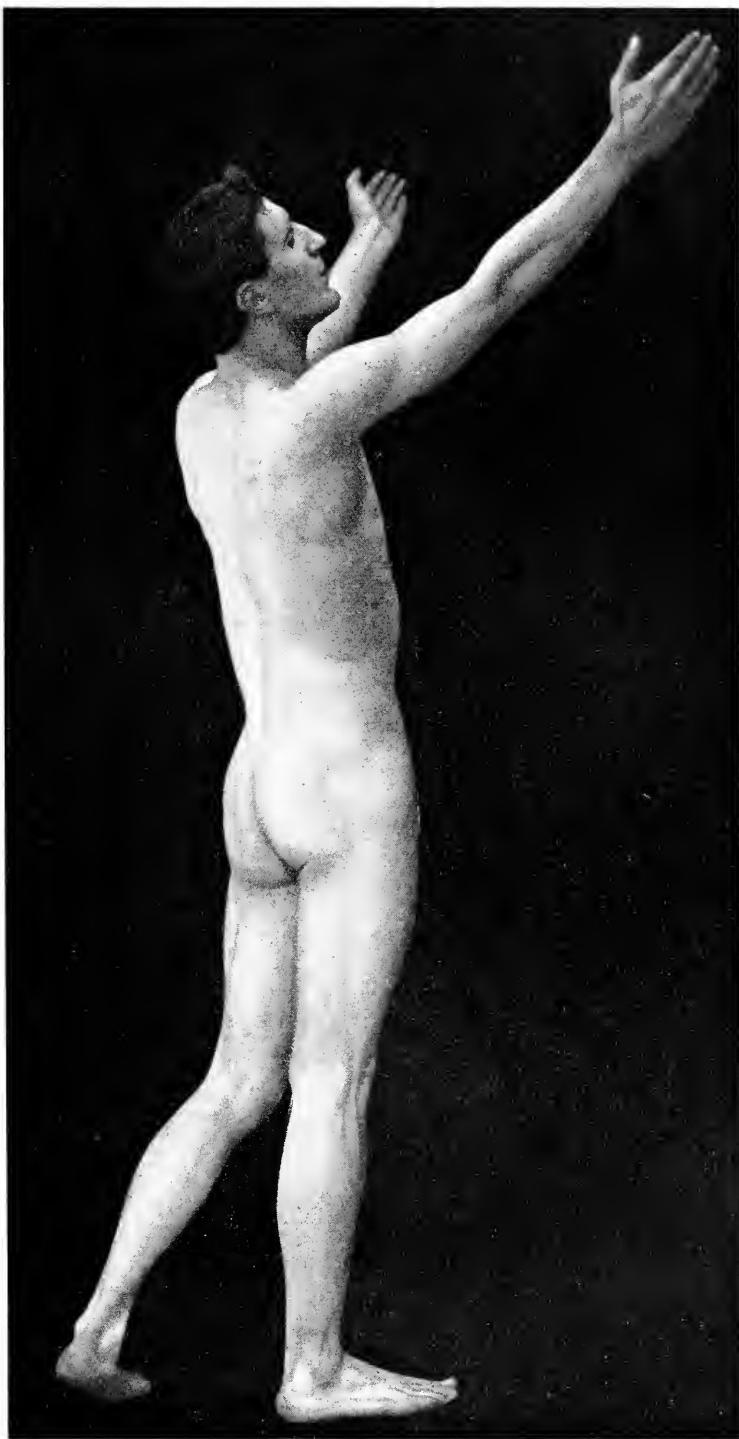


MODEL NO. 11.



MODEL NO. 8.

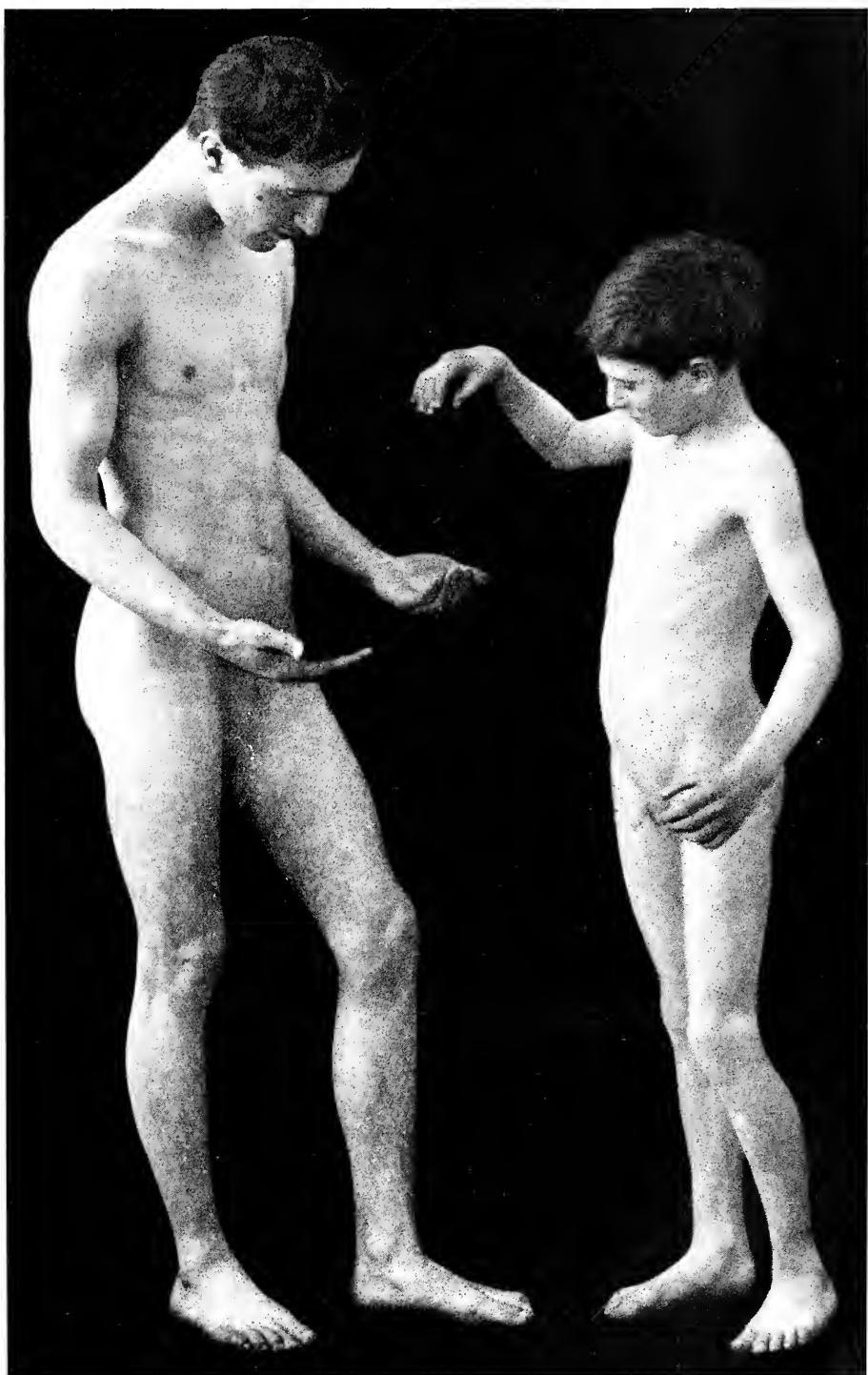
PLATE LXIII.



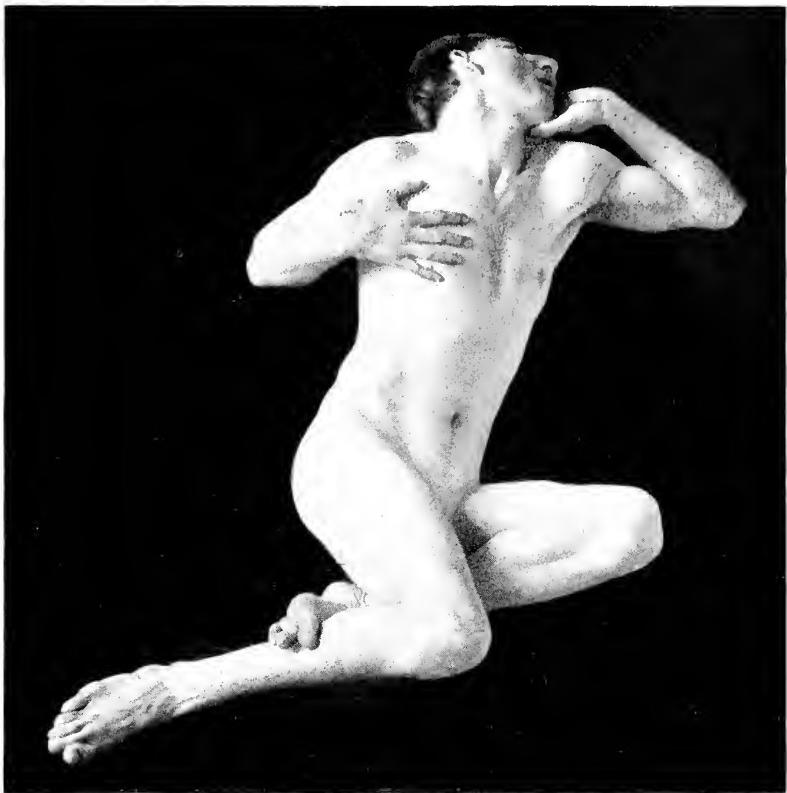
MODEL No. 8.



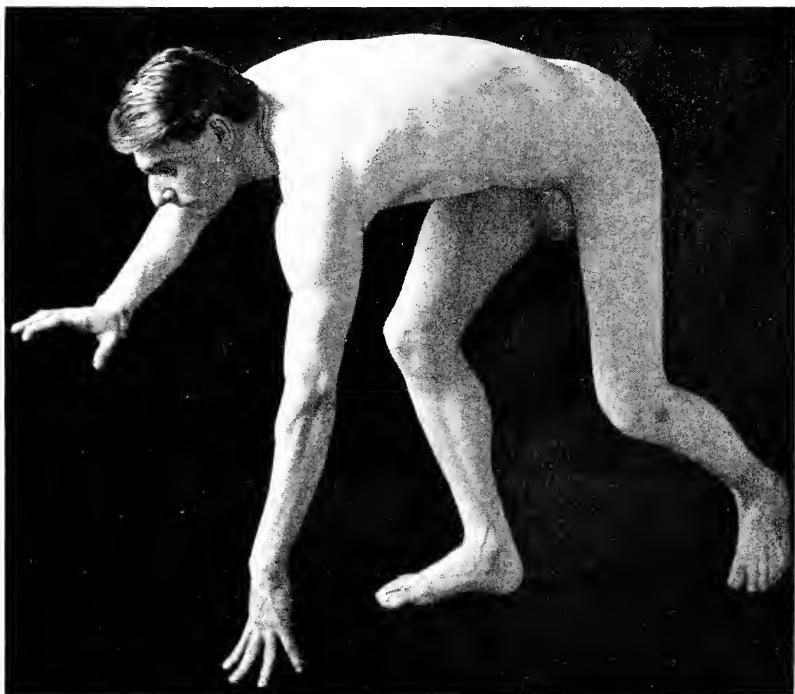
MODELS NOS. 8 AND 12.



MODELS NOS. 8 AND 12.

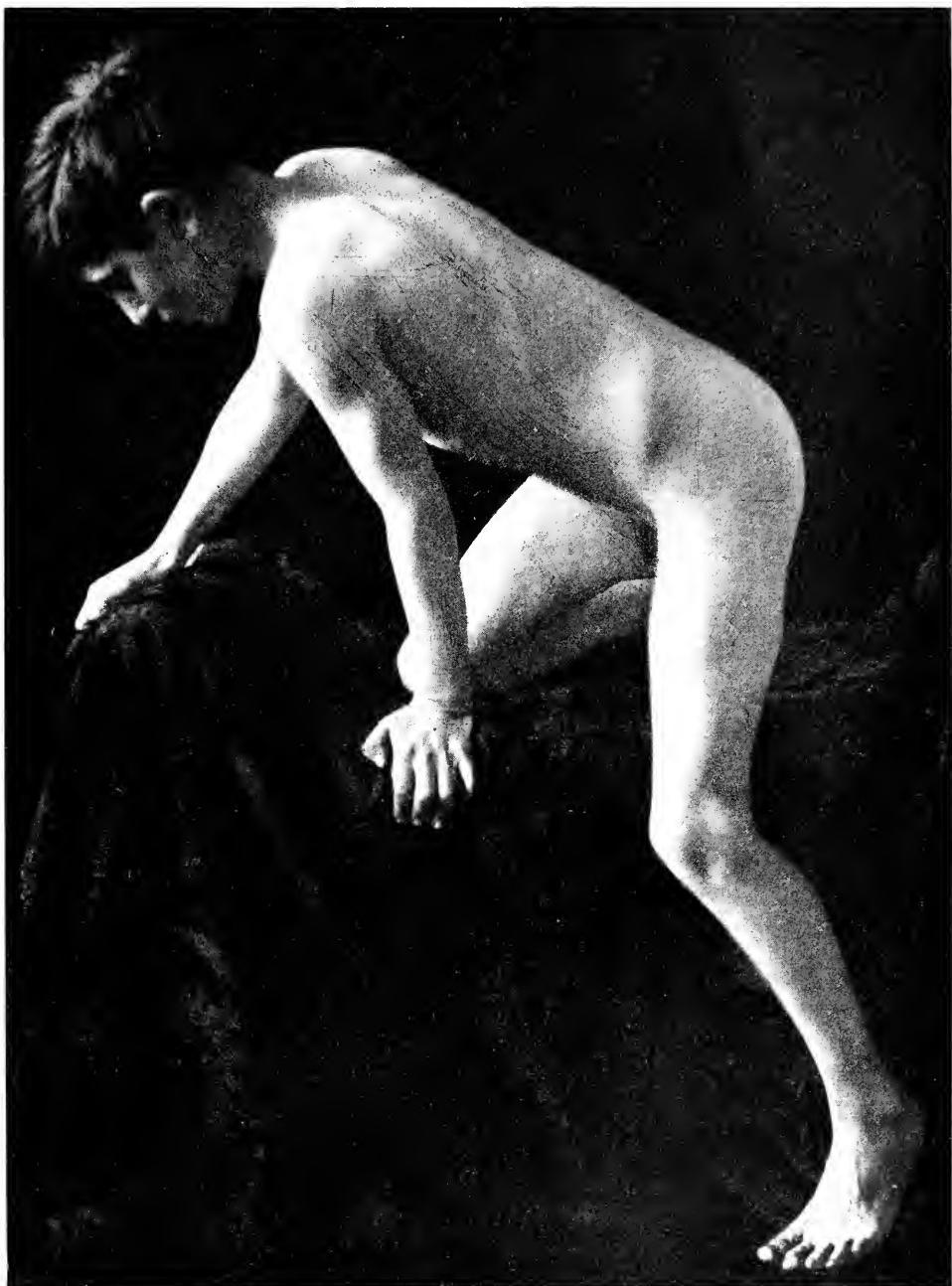


MODEL NO. 8.

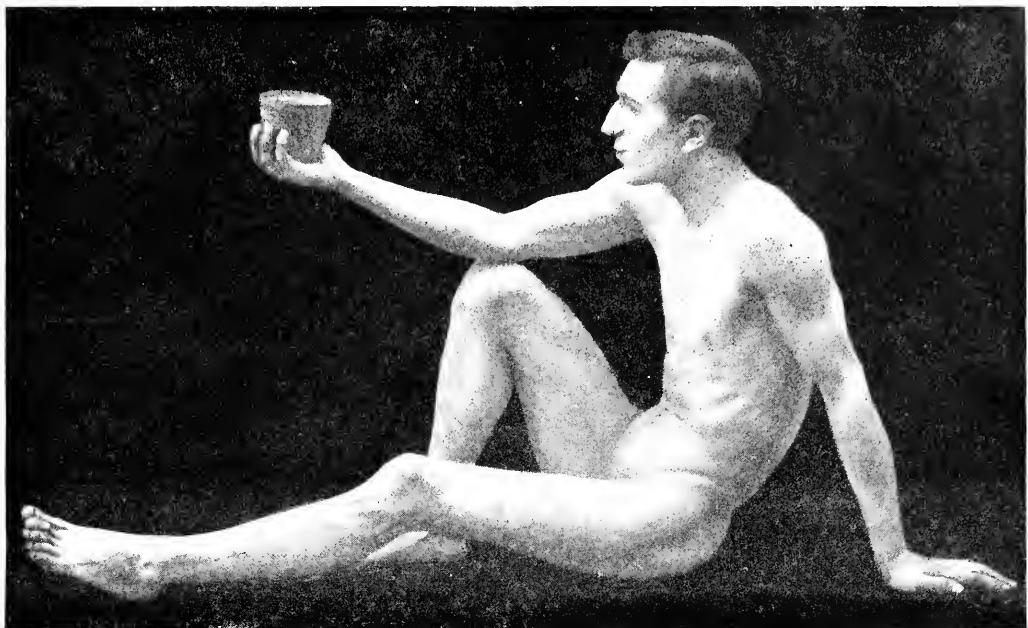


MODEL NO. 8.

PLATE LXVII.



MODEL NO. 12.



MODEL No. 8.



MODEL No. 11.



MODELS NOS. 8 AND 12.

PLATE LXX.



MODEL NO. 10.

PLATE LXXI.



MODEL No. 8.

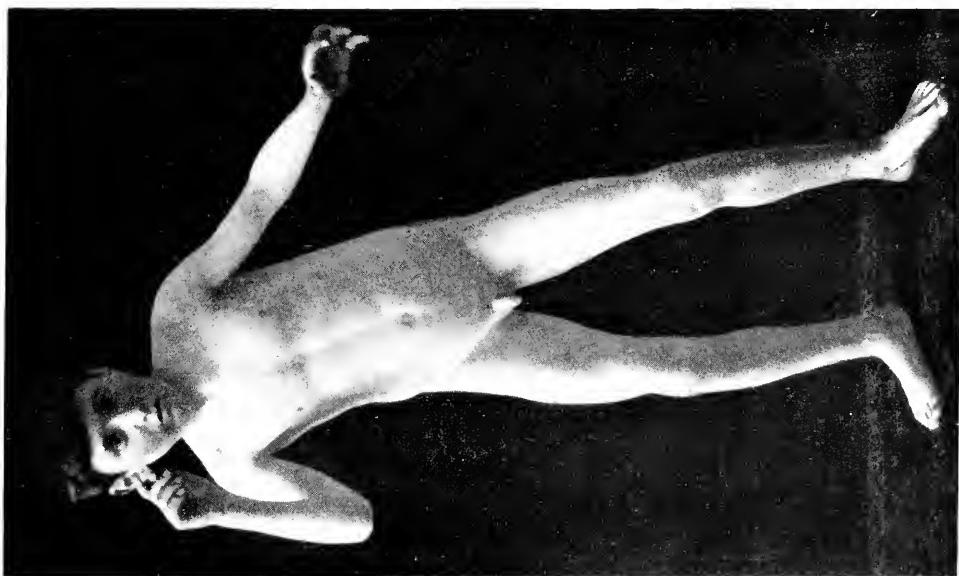
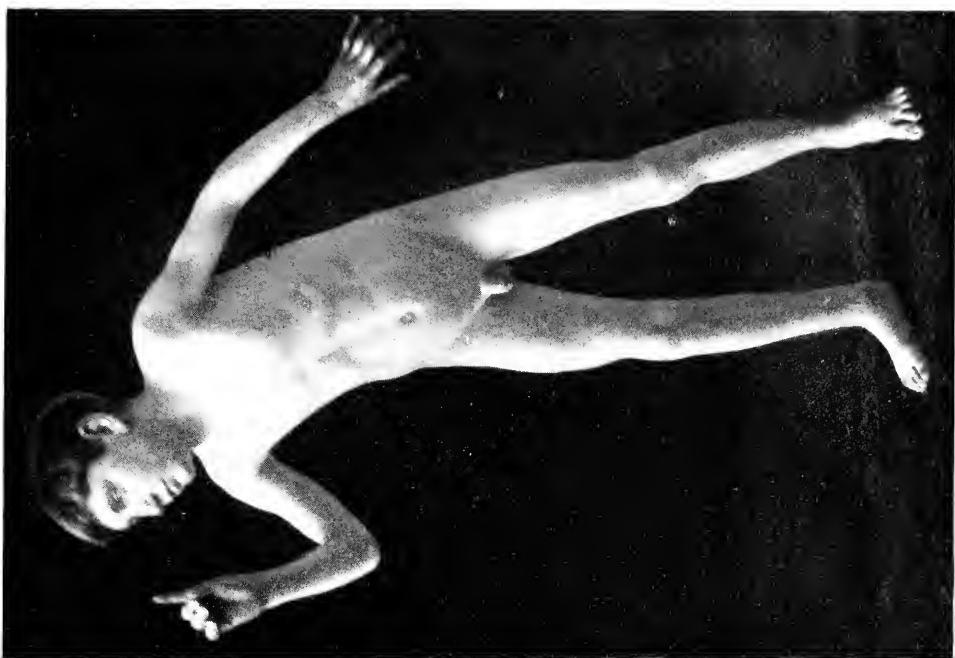


MODEL No. 12.

PLATE LXXII.



MODEL No. 12.



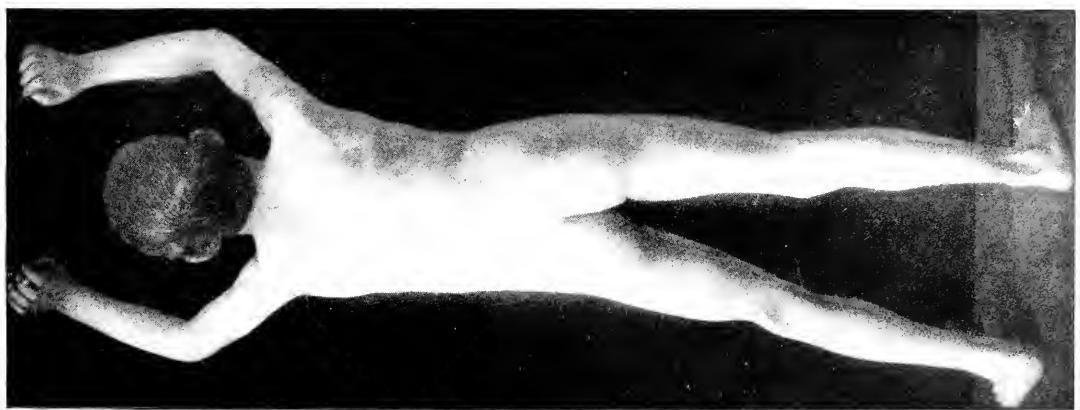
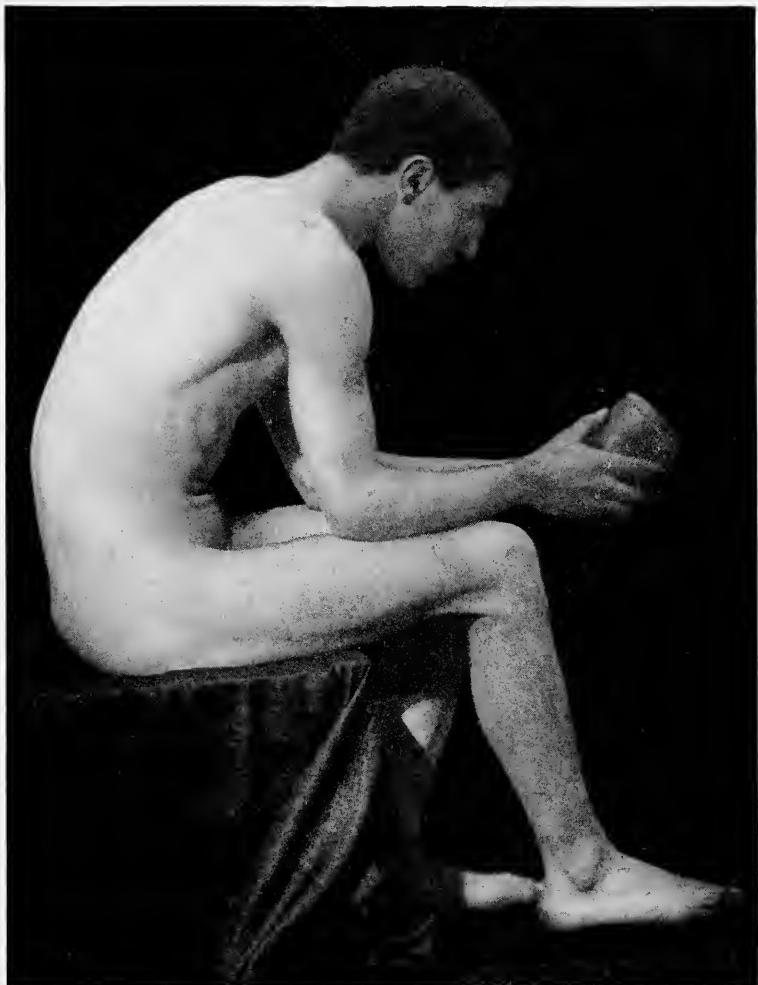




PLATE LXXVI.



MODEL No. 8.



MODEL No. 11.



